Canada — Alberta Crop Insurance

Report of the
Alberta Review Panel

Executive Summary

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Alberta
AGRICULTURE

EXECUTIVE SUMMARY

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EXECUTIVE SUMMARY

1.1 Introduction

After two successive years of severe weather-related problems in the crops sector of the farming industry in Alberta, it was deemed advisable to conduct a comprehensive review of the Canada-Alberta Crop Insurance Program. The purpose of the review was to assess the efficacy of the program and recommend ways and means by which the program could be enhanced to better serve the risk protection needs of Alberta producers. One hundred and thirty two written briefs were received by the review panel, from producers, farm organizations and other interested parties. A series of 4 formal and 39 informal hearings were held across the province. Informal meetings were attended by a total of about 655 people. Insurance related research was conducted to help assess the existing program and determine cause and effect of various alternative proposals.

1.2 Principles Of Crop Insurance

Insurance is the pooling of risk by a large number of participants, spread over a sufficient time span to be predictable in terms of cost. Ideally, the participants should be homogeneous and the area to which the insurance applies should also be homogeneous. Future yields are predicted on the basis of historical experience. The longer the historical base, the more stable and accurate the predictions become for the future. However, a shorter base will better reflect the effects of technological change.

Actuarial soundness is the goal of any insurance program. It is achieved if the total revenue from premiums balances the total indemnities paid out over a sufficiently long period of time. Actuarial soundness in a crop insurance program not only implies the overall financial integrity of the program, but it also means equity and fairness among risk areas, and among producers within a given area.

Coverage levels and premium rates should be set in a manner that will not influence farm management decisions one way or the other. In other words, crop insurance should be resource neutral.

The crop insurance program is yield insurance, not price or income support. Fundamentally, the producer pays a premium rate, expressed in bushels per acre, for a specified coverage level, expressed as well in bushels per acre. From a practical and administrative point of view, the yields used for coverage levels and the premium rates are converted to monetary terms by use of a price factor. This price factor should never exceed the going market price for the crop, otherwise the system will be open to abuse.

Because risk areas, and the farming practices within a risk area, are not completely homogeneous, it is necessary to apply special adjustments to maintain actuarial soundness. These adjustments take the form of enhanced coverage levels or reduced premiums for the better-than-average farm manager or the farm with lower risk. Conversely, premium surcharges and/or reduced coverage should be imposed on producers who, for whatever reason, have a high number of claims and a high loss-to-premium ratio. It is a basic tenet of equity and fairness in crop insurance that there must be a symmetrical distribution of the results of adjustments around the average yield. The basic requirement is that the special adjustments be consistent with the principles governing the long-run actuarial soundness of the program.

1.3 Crop Insurance Survey

A survey of 2,405 producers from all regions of the province, was conducted by Angus Reid and Associates for the purpose of assessing the views of producers with respect to crop insurance.

The survey found some tendency for younger and middle-aged producers to have larger farms, higher gross sales, larger debt load and higher off-farm incomes than older producers. These producers tended to be more likely to purchase crop insurance.

There is a high level of concern about probable crop loss. The degree of concern appeared to be directly related to the vulnerability of the individual producer in terms of risk area, diversity of income, financial security and size of farm. While producers reported many different means by which they could reduce their level of concern about having a crop loss, "getting crop insurance" was the number one alternative. The main reason given for not buying insurance was that coverage level was too low and/or premiums were too high.

Operationally, the Alberta Hail and Crop Insurance Corporation (AHCIC) received a high level of endorsement. While there were some complaints about adjustments being inadequate, province-wide 92 percent of claimants rated the service they received as satisfactory or very satisfactory.

When asked to express their level of concern about different insurance issues, the following four were most frequently mentioned:

- Abuse of the program.
- Reduction in coverage due to claims.
- Inability to claim for spot-loss.
- Cost of premiums.

A majority of producers indicated a willingness to pay higher premiums for higher levels of coverage, but did not, or could not, indicate how much more they would pay. Many had expressed concern about the cost of premiums, which suggests that there would be resistance to any increase other than a very modest one.

1.4 Issues

The four formal hearings, followed by 39 informal hearings throughout the province, brought to light a vast number of issues that concern producers.

The more salient issues which impact most heavily on the program are:

- Coverage levels: A great deal of significance was attached to the level of coverage when converted to a dollar value. There was an expressed need to keep this as high as possible, so as to allow producers to recover as much of their production costs as possible. To achieve higher coverage, three major proposals were submitted; tie coverage to input costs, introduce a deductible clause and reduce the punitive loss of coverage due to claims.

- Abuse: While there is widespread belief that the program is abused, there is no accurate means of measuring such abuse. The net effect of this perception, however, is a reduced participation in the program. Many suggestions were offered as to how abuse might be reduced, the most notable being a move to individual coverage.

- New concepts: A number of proposals suggested a departure from yield guarantee and adoption of some form of price or income insurance.

- Premiums. The principal concern was the relationship of premium to the amount of coverage available. Producers want premiums to be affordable.

- Government/producer cost sharing: Predominant among comments on the sharing of costs was the proposal that the provincial government should share in the cost of premiums on a tripartite arrangement.

- Individual coverage: There was a lot of support for individual coverage for two main reasons; it is seen as a means of eliminating abuse and of increasing coverage for the better-than-average producer.

- Spot-loss: A spot-loss coverage for all-risk insurance was proposed by many who felt it would enhance their chances of a payout.

- *Ad hoc* emergency programs: Producers expressed a general dislike for *ad hoc* programs, citing unfairness as the principal reason. Instead, producers would prefer some formal type of disaster fund to which producers and governments would contribute.

- Many other issues of lesser significance were brought forward.

1.5 Crop Insurance Comparisons With Other Jurisdictions

While the program offered in Alberta is generally similar to the programs in the other provinces and the U.S., there are some differences of note:

- The U.S. is on an individual coverage format.

- Ontario and Quebec provide individual coverage only.

- The U.S. program permits an integrated participation by the private sector.

- In Quebec, costs are shared 25 percent by the province, 25 percent by the federal government and 50 percent by the producer.

- Coverage to 80 percent of average yield is attainable in Ontario and Quebec.

- Ontario uses commission agents to market and service the program.

- Alberta is the only jurisdiction to offer a high-risk subsidy.

The Alberta crop insurance program encompasses all or most of the directly comparable features found in the other provincial and U.S. programs.

1.6 Effects Of The Alberta Hail And Crop Insurance Program On Resource Sustainability

It is estimated that the combined losses from major soil degradation problems are costing Alberta producers in excess of $100 million per year through reduced productivity. Inappropriate farming practices are responsible for a significant portion of the decline in the quality of Alberta soils. Crop insurance, to the extent that it influences cropping practices, has an effect on the sustainability of the soil.

There are three areas of the AHCIC program that impact negatively and one that impacts positively on the sustainability of our soils:

- Fallow-stubble coverage differential that encourages summerfallow rather than continuous cropping. This leaves the soil susceptible to erosion, organic matter decline, and groundwater recharge that leads to dryland salinity.

- The high-risk subsidy encourages cereal-fallow rotations rather than cereal-forage rotations. The latter is more conducive to soil conservation in many regions.

- Area-average coverage can mask the financial penalties associated with poor management practices. It is these poor managers' fields that are most susceptible to soil degradation.

- The Livestock Feed Security Program provides greater security to producers of forage crops and livestock which, in turn, encourages the production of forage crops on soils prone to salinity and erosion. The long-term effect should be a reduction in soil degradation.

1.7 Crop Insurance Research Projects

Instability has been an inherent characteristic of the prairie grain industry. Over the period 1960 to 1985, the average year-to-year variation in net farm income was 28.5 percent. Few other occupations face a year-to-year income variability of this magnitude.

Stabilization programs such as the Western Grain Stabilization Plan (WGSP) and others, including *ad hoc* programs, have helped to alleviate the problem, but only to a limited extent. When these payments are subtracted from total net farm income for 1984, Alberta producers actually had a negative net income from farming operations.

Research has shown that crop insurance alone cannot address this problem. Moreover, existing programs, while beneficial within the limitations of their mandate, do not provide the protection producers need, nor do they obviate the need for *ad hoc* emergency programs as evidenced by events in 1984 and 1985.

Considerable research has been carried out to address concerns of the existing crop insurance program, and to propose ways and means of enhancing the program. Additionally, researchers have designed two proposals to address the dual problems of widespread disaster due to natural causes and income variability due to market and production cost anomalies. The "Disaster Insurance Program" and "Prairie Grain Revenue Insurance Program" are reported briefly later in this chapter.

Continuing research is essential to adjust the crop insurance program to changing technology and conditions over time.

1.8 Recommendations And Conclusions

Three major recommendations presented are: development of a Prairie Grain Revenue Insurance Program, a Disaster Insurance Program and individual coverage for all producers with crop insurance.

These recommendations have been made in response to an expressed need by a prevailing number of producers and farm organizations throughout the hearings.

Their concerns include:

- A need for adequate insurance to cover input costs.
- A producer's coverage level and premium should not be affected by area-wide crop disasters.
- A need for low-cost protection against area-wide disasters.
- Reduce or eliminate need for ad hoc programs by developing long-term integrated programs to adequately stabilize the inherent volatility of production, price and markets.
- Coverage levels need to reflect an individual's productivity rather than area averages.

The recommendations appear in three sections:

- Prairie Grain Revenue Insurance Program; to address the producers' concerns relating to income uncertainty and instability.

- Disaster Insurance program; to develop a systematic approach to providing protection against occassional widespread disasters and to obviate the need for ad hoc programs.

- Crop Insurance; for the purpose of providing protection to producers against the short-term hazards of climatic perils.

Crop insurance is considered under three subsections: individual coverage, area-average coverage (which becomes irrelevant if individual coverage is accepted) and general recommendations that are relevant for crop insurance regardless of the coverage mechanism adopted.

Approximately 40 separate issues were identified as a result of the public hearings. The recommendations are organized to address these specific issues. Some form of a development plan is required if these recommendations are to be implemented. To aid in this process, each recommendation is labelled to indicate a desirable time frame for implementation:

1987 - Recommendations which can and should be implemented for the upcoming crop year.

1987(p) - Recommendations which are preferred to be implemented for the 1987 crop year. Necessary studies should start in 1987 for 1988 implementation at the latest.

1988 - Recommendations for which some short-term research and consideration may be required prior to implementation. Should be in effect for the 1988 crop year.

C - Continuous.

1.8.1 Prairie Grain Revenue Insurance Program

Background

Over the period, 1960 to 1985, the average year-to-year variation in net farm income was 28.5 percent. Major source of income variation for crops results from shifts in production levels and price. Crop insurance has been designed to deal with crop yield instability, not price variability problems, market constraints or production costs increases.

While large payments have been made under the Western Grain Stabilization Plan, it is not sensitive to particular conditions at a regional or an individual producer level. This lack of sensitivity was raised at the hearings, where producers expressed the need for higher coverage levels under crop insurance to cover input costs. For reasons given, a combination of WGSP and crop insurance does not satisfy the producer in meeting this need.

A Prairie Grain Revenue Insurance Program, as proposed, would provide an explicit price policy closely integrated with crop insurance.

An example as to how the program could work is as follows:

- The program would provide a price guarantee equivalent to 80 percent of the ten-year moving average price on quantities of grain in accordance with an individual's coverage under crop insurance. If an individual had 70 percent coverage under crop insurance and his long-term average yield was 50 bushels, the price guarantee payment, if triggered, would apply to 35 bushels regardless of his actual yield for that year. If he realized 20 bushels per acre, he would receive a crop insurance payment at market price on 15 bushels plus the price payment on 35 bushels. Assuming the guaranteed price (long-term average price) to be $4 per bushel and market price at $3 per bushel, payment under the program would be $1 per bushel. In the above example, the producer would get $45 per acre (15 bu x $3) from crop insurance on his production shortfall plus $1 per bushel from the price guarantee ($15) for a total of $60 on his shortfall. For the realized 20 bushels per acre, he would get $60 from market price and $20 from the price guarantee or $80. In total, he would realize $140 whereas he would have realized only $105 with crop insurance only.

The program could be made available to producers without crop insurance, however, the price guarantee would only apply to his actual yield. If he produced 20 bushels, the price guarantee would apply to 20 bushels. His coverage level under the price guarantee would be some percentage of area-average yield, e.g. 70 percent. If the long-term area-average yield was 40 bushels per acre, the price guarantee would apply up to 28 bushels, but not to exceed his actual production for that year.

All quantities of grain produced in excess of crop insurance coverage would be marketable at the prevailing market price without support.

Advantages of this program are:

- It would provide, along with crop insurance, a minimum form of direct income stabilization to prairie grain producers;
- It would complement and reinforce the existing crop insurance program;
- It would not detract from the broader and more general purposes of the WGSP;
- It would free the CWB to set its initial prices in accordance with the market forces;
- The quantity of crop sold above the volume eligible for the price guarantee, would:

a) Permit individual farmers to decide for themselves how to allocate their resources and to control or not to control their production;

b) Grains would be priced in a way that would not disadvantage the livestock producer.

* It would obviate the need for emergency ad hoc programs.

* It should add little, if any, further costs to the total costs already committed to the overall stabilization of the grain industry.

Recommendations

It is recommended:

1987 - That immediate initiation of the "Prairie Grain Revenue Insurance Program" be pursued at the highest level, with consultation among the premiers of the prairie provinces, the federal minister of agriculture and the federal minister responsible for the Canadian Wheat Board.

- Total costs of the program should be shared equally between the federal government, provincial government and the producer.

- That the program be voluntary.

- That the program be available to producers with or without crop insurance.

- Where a producer takes both WGSP and the "Prairie Grain Revenue Insurance Program", there may be a need for some integration to avoid double indemnities and provide associated premium adjustments.

- That the program be administrated through AHCIC.

- Subject to approval to proceed, considerable additional research will be required in respect to program development and administration.

1.8.2 Disaster Insurance Program

Background

The two back-to-back major droughts in Alberta during 1984 and 1985 had a severe impact on many aspects of the Alberta Hail and Crop Insurance Program:

- The average-area yields, particularly in Risk Area 1 and 2 fell drastically.
- Crop insurance coverage levels have begun to decline under the ten-year moving-average base.
- Indemnities in the amount of $419 million were paid out during 1984 and 1985.
- Good experience coverage adjustments and premium discounts earned over time by producers in many instances have been lost through no fault of their own.
- The AHCIC reserves and the Canada-Alberta reinsurance reserves moved into a deficit position.

A need exists for a "disaster" insurance program at affordable premiums to alleviate uncertainties among producers and greatly reduce the need for government emergency ad hoc programs.

The advantages of a disaster program are:

- Provide governments with a systematic budgeting process to offset the problem.
- Provides a mechanism whereby the producer would share in the cost.
- Provides producers the opportunity to participate in a low cost disaster insurance program without having to participate in basic crop insurance.
- Provides producers with the knowledge that they do have some protection in the eventuality of a disaster.
- A disaster program available to all producers, regardless of whether they participate in crop insurance or not, would go a long way in easing governments out of ad hoc emergency payments, particularly if the premium is kept very affordable to the producer. A high level of participation is required.
- It would still be necessary to maintain the reinsurance funds for basic crop insurance, but perhaps at a lower level.
- The cost of the disaster insurance program should be more than offset by the elimination of ad hoc programs. Disaster insurance would trigger a payment only on an individuals' cropping record, as in crop insurance, if the individual is within the disaster area. Hence, blanket area-wide payments would be avoided.
- Contingent upon the deductible for basic insurance (20-80%) being made available, it would be to the advantage of a person with basic insurance to take out "disaster" insurance since this would pick up the deductible and increase his claim should a disaster be declared. The premium and coverage could also be indexed in such a manner that a disaster would not impact on either premium rate or coverage for basic insurance.

- The person with only "disaster" insurance would be covered at perhaps a lower level than basic coverage, say at 50 percent of long-term area-average yield.

Recommendations

1987(p) - Work should start immediately on development of a long-term disaster insurance program for implementation by 1988.

- The disaster insurance program should be an integral part of the basic insurance program, not a separate and independent policy. Contingent upon Federal involvement, integration could be achieved by appropriate amendments and changes in the existing Basic Hail and Crop Insurance Program and the Canada-Alberta insurance agreement.

- The disaster program should include the following conditions:

* Disaster insurance should be voluntary.
* All Alberta producers should be eligible to participate whether they have crop insurance or not.
* Extraordinary indemnities of crop production loss realized by a defined disaster would be paid from the disaster fund.
* The fund would be established by legislation and remain separate and distinct from AHCIC funds.
* The fund would be administered through the AHCIC and payments of indemnities would be based on the same criteria as now used by the AHCIC.

  - * There would be no double indemnities vis-a-vis AHCIC payments and disaster payments.
  - * The Livestock Feed Security Program needs examination to determine how well it meets the need for a "disaster". There may be a need for a livestock feed security provision under the disaster program.

- The disaster would be based on area criteria such as: Consecutive years of loss; losses beyond a certain magnitude; and that a certain proportion of the producers in the area would suffer a defined loss.

  - * An area designated as a disaster area should be large enough to give meaning to the disaster insurance program. For example, an area somewhere between 10 or 15 townships may be a suitable size for a "disaster" area.
  - * The term "disaster" might be defined, for example, as one where over 50 percent of the producers in the designated area received crop insurance indemnities and where the total indemnity/total liability ratio for the designated area exceeds 15 percent.

- "Disaster" insurance implies systematic budgeting expressed as an annual premium levy sufficient to pay out disaster indemnities as experienced at infrequent intervals.

  - * Total cost (premiums and administration) should be equally shared between the federal government, provincial government and producer. An initial contribution to the fund may be required by governments.
  - * Premiums should be established at an affordable level, e.g. 50 cents to 1 dollar per acre cost to the

producer. Based on predicted revenues, coverage levels could be based on the probability of risk from disaster as defined.

- Coverage levels might be somewhat lower than used for basic crop insurance, perhaps in the area of 50 percent of the long-term area-average yield.

- Indemnities should be sufficient to offset the major effects of an area-wide crop disaster, while at the same time protecting the fundamental integrity of the basic crop insurance program.

  * When a crop insurance area is declared a "disaster area", extraordinary indemnities would be paid from the disaster fund. Coverage levels and premium rates under crop insurance would, therefore, not be affected. The actuarial integrity of crop insurance is maintained without premium or coverage adjustments for the "disaster" portion of indemnities.
  * If a coverage deductible (20-80%) is applied to basic crop insurance, then a producer with both crop insurance and disaster insurance would receive full indemnity.

  * Once the disaster area is defined, indemnities would be based on individual yield adjustments as is now done under crop insurance.
  * An automatic formula would trigger the disaster insurance provision for an area when a major crop loss disaster is encountered. Approved claims based on yield adjustments would be indemnified both with respect to "disaster" and crop insurance without double indemnity. A producer with only disaster insurance outside a declared disaster area would receive no indemnities.

- Perils subject to "area-wide" risk would be included under "disaster" insurance, e.g. drought, frost, snow and flood.

- Considerable study would be required to determine the probability of disaster and premium rates to maintain actuarial financial integrity of the program.

1.8.3 Crop Insurance

1.8.3.1 Coverage

The coverage level for crop insurance is a function of yield and grain prices. In dollar terms, coverage level declines with declining grain prices. Because of declining grain prices, considerable concern was expressed at the hearings with respect to the inadequacy of crop insurance to cover input costs. Concern was also expressed with respect to the low prices realized for harvested grain which may be below input costs.

As stated under principles of crop insurance, crop insurance can only insure against loss of yield. Crop insurance should never compensate at a price higher than market price. If this is done, the system will be open to widespread abuse because a producer could actually receive more money for not growing or harvesting a crop than he could receive had he put forward every effort to grow or harvest his crop.

A third concern expressed was the reduction of coverage levels caused by the widespread drought of 1984 and 1985. This resulted in loss of good experience for many producers as well as reducing the 10-year moving area-average yield.

A coverage deductible could be applied, e.g. 20 - 80 percent, where the producers would not be covered on the bottom 20 percent of his long-term average yield. For instance, if his average yield was 50 bushels per acre, his coverage would extend from 10 bushels to 40 bushels. This would help overcome abuse and provide greater flexibility to the producer and the adjuster in writing a crop off insofar as insurance is concerned.

Recommendations

- Coverage levels must remain on a yield basis tied to market price for payment purposes. Price and market protection are discussed in "Prairie Grain Revenue Insurance Program".

- Under the Canada Crop Insurance Act, crop insurance cannot exceed 80 percent of the long-term average yield. It is recommended that an 80 percent coverage option be adopted in addition to the existing 60 and 70 percent options.

- In consideration of the declining dollar coverage due to falling grain prices, the Alberta coverage restoration program should be continued for 1987.

- With a view to moving towards a system of establishing coverage levels less sensitive to yield variation in any one year, a study is required to determine the feasibiliy of adapting a 15-year moving average adjusted for trends in technology.

1.8.3.1 Individual coverage

Throughout the hearings, producers expressed concerns that the existing methods used in determining coverage levels based on risk-area average and soil classes do not reflect the yield variation due to differences in individual management.

Coverage adjustments for good experience is based on number of claims and the loss-to-premium ratio and does not necessarily reflect the actual yields. Hence, many producers are under-insured and many are over-insured. Over insurance can lead to abuse of the system. These observations are backed by research findings.

Given these concerns, producers are generally of the opinion that some means is required to more accurately reflect an individual's production capabilities relative to his/her peers. The only accurate method for yield determination is to measure an individual's production. Coverage and claim status can then be related directly to individual yield history.

Individual coverage is now an option. However, there are only 450 producers using it. For every three that take the option, two drop off and return to basic coverage. Why is this? Briefly, it is because the traditional area-average coverage system has a number of significant advantages over individual coverage. Under the present system, unless an individual has very high yields, individual coverage is simply not competitive with area-average coverage. Many of these anomalies have evolved over time in an attempt to reward good experience. This has resulted in coverage estimates which at best are rough proxies of an individual's actual yields.

There are a number of advantages associated with individual coverage:

- Coverage adjustment for good experience would be withdrawn. Coverage level adjustment as applied tend to significantly increase the levels above the mean. Basic premiums are presently "top loaded" by 40 percent largely to compensate for coverage adjustments for good experience, i.e. few claims and low premium-to-loss ratios.

- "Top loading" of premiums could be greatly reduced resulting in considerable cost savings, assuming everything else remains the same.

- Each producer would have an insurable production level based on his own productivity.

- It may be possible to establish a premium rate by crop on a provincial risk basis as is done in Ontario and Quebec. This would overcome the need for a high-risk subsidy, risk areas and soil classification.

- Premium discounts and surcharges would apply depending on individual experience.

- Abuse of the system would be reduced.

- Contingent upon individual coverage, there has to be an offset for acceptability. An offset could be to include a coverage level option of 80 percent of an individual's moving-average yield with the total cost of the program shared on a tripartite basis between the producer, federal government and provincial government. The total cost of the program would increase by about 37 percent. The cost to the producer and the federal government would remain about the same. The cost of enhancing the program would be borne mostly by the province.

The main disadvantages to individual coverage are:

- The logistics of verifying yields for all policy holders.

- Many producers do not have acceptable yield records to establish a five- or 10-year moving-average on individual yield. Initially, area-average yields, perhaps adjusted for experience, would have to be used and replaced by actual yields over time. Other means may need to be evaluated.

Aside from the disadvantages, by moving to individual coverage the program can be greatly simplified, particularly if a base premium rate can be established provincially. There may be no need for risk areas, soil classification, fallow-stubble differentials, high-risk subsidies or coverage adjustments. Premium rates could be discounted or surcharged depending upon individual experience. Wide variation in management would be reflected in individual productivity. Objections to resource neutrality would be overcome.

Recommendations

1988 - Contingent upon 80 percent or 20 - 80 percent coverage option being made available and a tripartite arrangement for the sharing of premiums, individual coverage for all producers should be adopted by 1988. The need for a system to determine coverage level by phasing in actual yields as they become available is recognized.

- Individual coverage be based on a form of indexing of the basic area coverage; the index is to be based on a moving average of the producer's individual yields compared to an area-average yield.

- Premium rates be discounted or surcharged depending upon an individual's loss experience.

1.8.3.2 Area-average coverage

Should a complete transition to individual coverage not be accepted, then several major modifications would be required with respect to the existing program. Area-average coverage should be compatible with the individual coverage option. Research results shows considerable variation within risk areas. Also, lower classified soils generally have higher risk, which may not be fully reflected in premiums. It appears that there may be considerable cross subsidization both within and between risk areas. Coverage adjustments which do not necessarily reflect actual yields result in both under- and over-coverage. The way it is applied, far more producers have coverage levels above the area-average yield than below. Associated problems caused by this skewness are explained in 1.8.3.1.

Recommendations

- To reduce abuse, all producers with a high frequency of claims and/or high loss-to-premium ratios should be placed on individual coverage.

- Average adjustment method to more accurately reflect actual yields, needs to be developed.

- Risk areas and soil classifications require refinement to achieve greater homogeneity and improved equity in the system.

- With a view to moving towards a system of establishing coverage levels less sensitive to yield variation in any one year, a study is required to determine the feasibility of adapting a 15-year moving average adjusted for trends in technology.

1.8.3.3. General recommendations

Premiums

Producers require more insurance protection, but do not appear to fully realize the extent to which premiums escalate with increasing coverage.

Recommendations

1988 - Total program costs (administration and premiums) should be shared equally between the federal government, the provincial government and producers. This is contingent upon moving to individual coverage and an 80 percent coverage option being made available.

1988 - Premium surcharges should be applied to producers with high claims while discounts should be credited to producers with few claims.

1988 - The premium rate should be applied directly to a contract holders coverage level. Changes in dollar-per-acre coverage would result in changes in dollar-per-acre premium.

Abuse

Producers are concerned with the potential for abuse and/or misuse of the current crop insurance program. The review panel received a strong endorsement to recommend methods to tighten the system.

Recommendations

1987(p) - The AHCIC should consistently enforce their prerogative to temporarily disqualify producers from the crop insurance program in instances of fraud. Producers realize the corporation wishes to err on the side of the producer, but feel a tightening of this area is warranted.

1988 - If the program is to be maintained in its present form, individual coverage should be mandatory for clients with high incidence of claim

1987 - Where indicated, the AHCIC should conduct strict field inspections, random pre-harvest checks and perhaps utilize weather data in verifying the legitimacy of a claim.

1987(p) - Individual claim submissions should be analyzed relative to area. The AHCIC may have to restrict the number of successive years in which a producer can receive a payout.

1987 - Penalties for misuse or fraud should be reviewed in terms of severity. If deterrents are not effective, increased frequency and magnitude of penalties are warranted.

Policy issues

Recommendations

1987 - Crop insurance must remain voluntary.

1987 - An independent appeal tribunal should be established to separate the AHCIC from disputes with producers. Members of the appeal tribunal should be appointed by Order-in-Council and be fully knowledgeable of the program.

1987(p) - The research capability within the AHCIC should be increased and co-ordinated with analytical capabilities within Alberta Agriculture. Considerable work can now be done since significant historical data is available.

1988 - Enhance the AHCIC computer systems' capability throughout the province. District offices should be "on line" with head office. This should be initiated as a pilot project and reviewed in terms of cost and effectiveness.

1987 - Where an individual significantly increases his production base of any enterprise, the AHCIC may insist that coverage be based on a weighted average of the area average yield and his coverage level as of the previous year.

1987 - Alberta Agriculture extension staff need to work more closely with AHCIC personnel so as to be more informed with regard to crop insurance program on an ongoing basis.

1987 - Additional investigative resources may be required for areas of possible fraud. There is a need to co-ordinate investigations with pertinent information that may be available in Alberta Agriculture programs.

1987(p) - Reinsurance arrangements should be reviewed to ensure the financial integrity of the crop insurance program.

1987 - Training of district staff should be given a higher priority.

1987 - Additional positions should be provided within the AHCIC to ensure the availability of trained management personnel to replace senior staff approaching retirement.

1987(p) - The AHCIC must develop a more market oriented approach to selling crop insurance.

- The head office of AHCIC should remain intact and in Lacombe.

- To ensure continuity in AHCIC management, consideration be given to arranging understudy positions for senior executives.

1987 - The Board of Directors should be increased to nine to assure geographical representation, particularly from the Peace River area. There should be continued representation from irrigation districts. The Directors should be appointed by Order-in-Council on a rotational basis for a three year term with a maximum of two consecutive terms. A member of the legislature should be appointed to the board, however, the chairman should not be a member of the legislature. In this way, the government would have greater flexibility and perhaps better representation. All other Directors should be producers. Ex officio representation from Agriculture Canada and Alberta Agriculture should also be appointed.

Administrative issues

Recommendations

1987(p) - More information should be made available to producers in written form and through seminar presentations. Seminars could be an integral part of other agriculture extension meetings.

1987 - To provide producers with concise, up to date information, district staff should be knowledgeable in all aspects of crop insurance.

1987(p) - Answering machines should be installed in district offices.

1988 - Review the need for additional satellite offices.

1987 - Ensure premium rate and coverage manuals are available to all producers prior to the election deadline for insuring crops.

1987 - Pre-harvest inspections, especially hail adjustments, should be more prompt so the producer can proceed with field operations.

AHCIC performance

Recommendations

1987 - To assure consistency in adjustments, field personnel should receive standard training and be fully competent in all aspects of field work. Working knowledge of all policy changes should receive a high priority.

1987(p) - Personal observations regarding the attitude of claimants upon inspection should be recorded separately from the adjuster's form and remain confidential to the corporation. The provision for remarks on "attitude" should be removed from the form.

1987 - Both pre-harvest and post-harvest inspections should be used when necessary to adjust a claim.

Livestock Feed Security Program

Recommendations

The existing program must be thoroughly reviewed to make sure it is actuarially sound and that it meets the needs of the producers.

1988 - Contingent upon appropriate modification make the Livestock Feed Security Program applicable throughout the province.

1988 - Further study is required to determine the feasibility of the following: providing coverage levels and/or claims on an individual rather than on area average basis, eligibility of older hay fields, hail endorsement, insuring pastures and allowing a producer to insure a specific portion of his/her forage acreage.

C - The actuarial integrity of the program should be continually monitored to ensure a financially sound and equitable program.

1988 - Study the feasibility of including an option of coverage on the year in which forage is established.

Experience adjustment

Producers argue that an individual's coverage should not be affected by an area-wide disaster. In addition, good experience credits decline at a faster rate than they can be acquired.

Recommendations

1988 - Premium adjustments should include surcharges as well as discounts and be calculated separately for each crop.

1987(p) - The rate of increase and decrease of the coverage adjustment mechanism should be re-examined. At present, the rate of decline exceeds the rate of adjustment increase.

1988 - An individual's premium and coverage level should be indexed to participants in the immediate area to offset the effect of coverage level adjustments due to widespread disasters.

Deadline dates

Recommendations

1987 - The seeding deadline dates should be reviewed with respect to regional variations in the length of the growing season.

1988 - Regulations to receive a summerfallow designation on ploughed-down crops should be reviewed by crop and be adjusted to allow for regional variations in the length of the growing season.

1987(p) - The application of interest charges on unpaid premiums should be set back to October 1 to allow producers a chance to receive some remuneration from the sale of crops.

1987(p) - For "pure" alfalfa stands, the plough-down date for fallow designation eligibility should be the same as that set for clovers.

Spot-loss provision

Crop insurance is intended to be a production guarantee set at some percentage of total average productivity to provide insurance against disasters from natural perils. Spot-loss coverage is not practical due to the difficulty in assessing pre-harvest damage of many perils, potential for high losses and prohibitive cost and actuarial integrity and equity between producers.

Recommendations

- Spot-loss coverage other than under the hail endorsement, is not recommended.

C - Spot-loss from flood may be considered under a disaster program.

Summerfallow/stubble

Recommendations

1987(p) - The fallow-stubble yield differentials are wider in many risk areas than actual yield data indicates. Yield differentials should be re-adjusted to reflect current spreads and continually changing technology.

1987(p) - When fallow-stubble differentials are small, the distinction may be omitted.

Types of crops insurable

Recommendations

C - Continued research is required to assess the feasibility of providing insurance for fresh vegetables, market gardeners and forage seed producers.

1987(p) - The feasibility of insuring different varieties of potatoes on separate contracts should be examined. Potato prices vary considerably depending on end use.

1987(p) - Research is required to assess some minimum level of coverage for new crops lacking historical yield data, e.g. cover a production loss not to exceed 50 dollars per acre until historical records are accumulated.

1987(p) - Consideration should be given to insuring cereal silage crops (annual crops) separately from cereal grain crops as an elective.

Perils insurable

Recommendations

1987 - Coverage should continue to be offered as insurance against an assortment of natural perils (all perils) rather than on an individual peril basis.

Wildlife depredation

Private lands are an integral part of the habitat base required to sustain wildlife. Society, as a whole, has ultimate responsibility for the preservation of wildlife and wildlife habitat. Full compensation to producers who have sustained wildlife damage is necessary to encourage the preservation of lands suitable for wildlife habitat.

Recommendations

1987(p)- A comprehensive program should be developed to fully reimburse producers for all losses due to wildlife damage. Compensation should continue to be paid through a wildlife fund without premium costs to farmers. Administration of the program should remain a responsibility of the AHCIC.

Quality adjustments

Recommendations

1987(p) - An evaluation of the quality adjustments mechanism is required to ensure that no inequities in the factoring process exist for one crop relative to another. A better method of factoring quality for soft white spring wheat is needed.

- Yields should not be factored up if grades are better than the base grade used by the AHCIC.

1987 - Quality adjustments should be used only for adjusting claims, not for establishing coverage levels.

Farm contracts

Recommendations

1987(p) - The 15 mile limitation required for separate contracts should be reviewed but maintained unless evidence is provided to indicate a problem with grain movements.

Farm-size discounts

Recommendations

1987 - The farm-size discounts should be discontinued since research indicates there is little or no reduction of risk as farm size increases.

Irrigation vs. dryland

Combining irrigated and dryland acreages reduces the chance of initiating a claim since yields on irrigated lands tend to outweigh any deficiencies encountered on dryland.

Recommendations

1987(p) - Separate contracts should be allowed for crops grown on irrigated lands and dryland. Both pre-harvest and post-harvest inspections should be conducted where the same crops are grown, to counteract the potential for grain movement and/or difficulties in adjusting.

Straight hail insurance

Recommendations

1987(p) - Straight hail insurance should remain an option to producers, with a review of coverage levels available to vegetable growers who do not sell through a marketing board.

Price options

Crop insurance is a production guarantee; however, for practical administrative reasons, premiums and levels of coverage are expressed in dollars. Some producers have expressed confusion with this practice, claiming they misunderstood the degree of protection purchased. Prices used for crop insurance must be close approximations of market price.

Recommendations

1988 - Premiums and levels of coverage should be expressed in bushels (kg) per acre when producers make crop elections. Prices for "Board" grains could be set equal to the CWB initial prices when announced, while the futures market may be utilized to establish non-board prices. Further research should be conducted to assess the feasibility of this approach.

Speciality crops

Recommendations

C - Boundary limitations delineating areas in which speciality crops are approved for insurance should be continuously reviewed to accommodate new adaptations in technology (e.g. earlier varieties).

1987 - Eligibility to insure beehives should be set at 50 hives.

High-risk subsidy

The high-risk subsidy was established by the Province of Alberta to ensure that no producer pays a premium in excess of 6 percent or 8 percent at the 60 and 70 percent coverage levels, respectively. The high-risk subsidy generally applies to lower classified soils which, on average, have lower yields and higher risks.

Recommendations

1988 - The high-risk subsidy should be maintained within the context of the existing program. If the individual coverage recommendation is adopted, risk could be spread over all participants with credits and surcharges levied on an individual basis. This implies a uniform premium rate throughout the province.

Privatization

During the course of the public hearings, several private insurance agents expressed interest in selling all-risk crop insurance and/or hail endorsement insurance. Potential benefits to which they alluded include an established network of agents and offices, efficient and professionally trained sales personnel, aggressive selling and availability of other farm insurance policies.

Recommendations

- The interest shown by the private sector in marketing all-risk crop insurance should be considered in developing a future marketing strategy.

1.9 Conclusions

Far reaching recommendations have been presented with the objective of enhancing the crop insurance program to better meet the needs of the producer. Because of the existing cost-price squeeze, producers have generally argued for a system that would protect their input costs at affordable rates. As shown, it is impossible to meet this need by crop insurance alone. In addition, others with relatively low risk need disaster protection at low cost.

It is the desire of governments to withdraw from ad hoc programs in favor of systematic cost-sharing programs that can be developed on an actuarial base. This will allow for systematic budgeting and the spreading of costs more equally over time. Producers in general are not happy with ad hoc programs because of inequity and the uncertainty of whether any payment will be made.

Finally, producers in general feel that individual coverage would be more equitable and help overcome abuse.

To meet these challenges, three major recommendations have been made:

- Entering into immediate negotiations with the federal government and Manitoba and Saskatchewan governments for development of a Prairie Grain Revenue Insurance Program with a tripartite costs sharing arrangement.

- Developing a "disaster" insurance program with a tripartite cost sharing arrangement for 1988.

- Moving to individual coverage, contingent upon offering an 80 percent coverage option (in addition to 60 and 70 percent now available) and equal sharing of costs between each level of government and the producers for 1988.

Canada — Alberta Crop Insurance

Report of the
Alberta Review Panel

December 19, 1986

Alberta
AGRICULTURE

Alberta
AGRICULTURE

CROP INSURANCE REVIEW PANEL

J.G. O'Donoghue Building, 7000 - 113 Street, Edmonton, Alberta, Canada T6H 5T6 403/422-5876

December 19, 1986

The Honourable Shirley Cripps
Associate Minister of Agriculture

Letter of Transmittal

Minister,

We, the undersigned, are pleased to transmit herewith our findings, conclusions and recommendations relating to the Canada-Alberta Crop Insurance Program.

In accordance with the mandate as set out in the Ministerial Order of July 21, 1986, the Alberta Crop Insurance Review Panel has given full consideration to the concerns expressed through numerous briefs and public hearings. Research projects were assigned and these are reported herein and provide some of the background for recommendations offered.

It has been a pleasure to be of service.

Yours respectfully,

Dallas W. Schmidt, Chairman

J. Thacker

Johnny Vos
C.S. (Johnny) Vos

Nigel Pengelly
N. Pengelly, MLA

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INTRODUCTION

On January 29, 1986, the Alberta Minister of Agriculture announced that the provincial government would conduct a comprehensive review of the Canada-Alberta crop insurance program. The review was to be carried out by a producer-MLA review panel chaired by Dallas W. Schmidt, former minister of agriculture.

The Minister indicated that Alberta producers have faced two consecutive years of weather problems; 1985 being one of the worst crop years in 50 years. As a result of these and other factors, farmers have expressed a number of concerns about the adequacy of crop insurance. The Minister said, "it is time that a good hard look be taken at the crop insurance program to ensure that it is meeting the needs of producers, and if it is not, then how can it be improved".

REVIEW PANEL MANDATE

The Alberta government's objective is to enhance the crop insurance program. To meet this objective, the Alberta Crop Insurance Review Panel shall undertake a comprehensive review of the Canada-Alberta Crop Insurance Program. The review panel shall report its findings and provide a set of recommendations to the Alberta Minister of Agriculture regarding the most appropriate means by which the crop insurance program may be strengthened.

- Specifically, the review panel shall:

  *Assess the level of crop production risk experienced by Alberta producers.
  *Determine the producer's ability and need to offset crop production risk.
  *Determine the ability of the existing crop insurance program to offset producers' crop production risk.
  *Determine alternate approaches to overcome identified weaknesses and evaluate these alternatives.

*Assess the merit of more closely integrating crop insurance, grain stabilization and the cash advance programs.

- The review panel will carry out its mandate by:

*Receiving written briefs from individual producers, farm organizations and other interested parties.
*Conducting public hearings at appropriate locations across the province to obtain the views of producers, farm organizations, and other interested parties.
*Commissioning research projects as may be deemed appropriate and necessary.

Since Canada-Alberta Crop Insurance is a joint federal-provincial program, recommended changes to the program will be negotiated with the federal government.

ALBERTA CROP INSURANCE REVIEW PANEL MEMBERSHIP

Dallas W. Schmidt, Chairman, Ma-Me-O Beach
R.F. Hymas, Standard
E. Sikora, Warspite
J. Thacker, Burdett
C.S. (Johnny) Vos, Keg River
G. Clegg, MLA - Dunvegan
R. Fischer, MLA - Wainwright
N. Pengelly, MLA - Innisfail

Public hearings were held throughout the province and submissions were invited from farm organizations, commodity groups, individual producers, and other interested parties. Formal hearings were held in early September at Lethbridge, Calgary, Peace River and Edmonton. A series of 39 informal meetings were held throughout the province during late October and early November. In addition to hearing presentations from groups and individuals, the panel was afforded the opportunity during the latter meetings to assess public reaction to proposals that had been presented earlier. A total of 132 briefs were presented to the panel.

The accumulative input of farmers, farm organizations and researchers forms the basis upon which this report and its recommendations have been prepared.

This document is organized as follows:

Chapter 1 - Executive summary and recommendations.

Chapter 2 - A review of the underlying principles of crop insurance.

Chapter 3 - Findings of a survey of Alberta producers conducted by Angus Reid and Associates for the purpose of assessing producer attitudes toward the crop insurance program, are summarized.

Chapter 4 - A summary of the briefs presented at both the informal and formal hearings.

Chapter 5 - A comparison of the Canada-Alberta crop insurance program with several other provinces and the United States.

Chapter 6 - An assessment is made of the resource neutrality of crop insurance.

Chapter 7 - The results of research projects relating to crop insurance are outlined.

Chapter 8 - Reports on the findings and conclusions of the review panel.

CHAPTER 1

EXECUTIVE SUMMARY

1.1 Introduction

After two successive years of severe weather-related problems in the crops sector of the farming industry in Alberta, it was deemed advisable to conduct a comprehensive review of the Canada-Alberta Crop Insurance Program. The purpose of the review was to assess the efficacy of the program and recommend ways and means by which the program could be enhanced to better serve the risk protection needs of Alberta producers. One hundred and thirty two written briefs were received by the review panel, from producers, farm organizations and other interested parties. A series of 4 formal and 39 informal hearings were held across the province. Informal meetings were attended by a total of about 655 people. Insurance related research was conducted to help assess the existing program and determine cause and effect of various alternative proposals.

This document reports on the findings and recommendations of the review panel.

1.2 Principles Of Crop Insurance

Insurance is the pooling of risk by a large number of participants, spread over a sufficient time span to be predictable in terms of cost. Ideally, the participants should be homogeneous and the area to which the insurance applies should also be homogeneous. Future yields are predicted on the basis of historical experience. The longer the historical base, the more stable and accurate the predictions become for the future. However, a shorter base will better reflect the effects of technological change.

Actuarial soundness is the goal of any insurance program. It is achieved if the total revenue from premiums balances the total indemnities paid out over a sufficiently long period of time. Actuarial soundness in a crop insurance program not only implies the overall financial integrity of the program, but it also means equity and fairness among risk areas, and among producers within a given area.

Coverage levels and premium rates should be set in a manner that will not influence farm management decisions one way or the other. In other words, crop insurance should be resource neutral.

The crop insurance program is yield insurance, not price or income support. Fundamentally, the producer pays a premium rate, expressed in bushels per acre, for a specified coverage level, expressed as well in bushels per acre. From a practical and administrative point of view, the yields used for coverage levels and the premium rates are converted to monetary terms by use of a price factor. This price factor should never exceed the going market price for the crop, otherwise the system will be open to abuse.

Because risk areas, and the farming practices within a risk area, are not completely homogeneous, it is necessary to apply special adjustments to maintain actuarial soundness. These adjustments take the form of enhanced coverage levels or reduced premiums for the better-than-average farm manager or the farm with lower risk. Conversely, premium surcharges and/or reduced coverage should be imposed on producers who, for whatever reason, have a high number of claims and a high loss-to-premium ratio. It is a basic tenet of equity and fairness in crop insurance that there must be a symmetrical distribution of the results of adjustments around the average yield. The basic requirement is that the special adjustments be consistent with the principles governing the long-run actuarial soundness of the program.

1.3 Crop Insurance Survey

A survey of 2,405 producers from all regions of the province, was conducted by Angus Reid and Associates for the purpose of assessing the views of producers with respect to crop insurance.

The survey found some tendency for younger and middle-aged producers to have larger farms, higher gross sales, larger debt load and higher off-farm incomes than older producers. These producers tended to be more likely to purchase crop insurance.

There is a high level of concern about probable crop loss. The degree of concern appeared to be directly related to the vulnerability of the individual producer in terms of risk area, diversity of income, financial security and size of farm. While producers reported many different means by which they could reduce their level of concern about having a crop loss, "getting crop insurance" was the number one alternative. The main reason given for not buying insurance was that coverage level was too low and/or premiums were too high.

Operationally, the Alberta Hail and Crop Insurance Corporation (AHCIC) received a high level of endorsement. While there were some complaints about adjustments being inadequate, province-wide 92 percent of claimants rated the service they received as satisfactory or very satisfactory.

When asked to express their level of concern about different insurance issues, the following four were most frequently mentioned:

- Abuse of the program.
- Reduction in coverage due to claims.
- Inability to claim for spot-loss.
- Cost of premiums.

A majority of producers indicated a willingness to pay higher premiums for higher levels of coverage, but did not, or could not, indicate how much more they would pay. Many had expressed concern about the cost of premiums, which suggests that there would be resistance to any increase other than a very modest one.

1.4 Issues

The four formal hearings, followed by 39 informal hearings throughout the province, brought to light a vast number of issues that concern producers.

The more salient issues which impact most heavily on the program are:

- Coverage levels: A great deal of significance was attached to the level of coverage when converted to a dollar value. There was an expressed need to keep this as high as possible, so as to allow producers to recover as much of their production costs as possible. To achieve higher coverage, three major proposals were submitted; tie coverage to input costs, introduce a deductible clause and reduce the punitive loss of coverage due to claims.

- Abuse: While there is widespread belief that the program is abused, there is no accurate means of measuring such abuse. The net effect of this perception, however, is a reduced participation in the program. Many suggestions were offered as to how abuse might be reduced, the most notable being a move to individual coverage.

- New concepts: A number of proposals suggested a departure from yield guarantee and adoption of some form of price or income insurance.

- Premiums. The principal concern was the relationship of premium to the amount of coverage available. Producers want premiums to be affordable.

- Government/producer cost sharing: Predominant among comments on the sharing of costs was the proposal that the provincial government should share in the cost of premiums on a tripartite arrangement.

- Individual coverage: There was a lot of support for individual coverage for two main reasons; it is seen as a means of eliminating abuse and of increasing coverage for the better-than-average producer.

- Spot-loss: A spot-loss coverage for all-risk insurance was proposed by many who felt it would enhance their chances of a payout.

- *Ad hoc* emergency programs: Producers expressed a general dislike for *ad hoc* programs, citing unfairness as the principal reason. Instead, producers would prefer some formal type of disaster fund to which producers and governments would contribute.

- Many other issues of lesser significance were brought forward. These are reported in detail in Chapter 4.

1.5 Crop Insurance Comparisons With Other Jurisdictions

While the program offered in Alberta is generally similar to the programs in the other provinces and the U.S., there are some differences of note:

- The U.S. is on an individual coverage format.

- Ontario and Quebec provide individual coverage only.

- The U.S. program permits an integrated participation by the private sector.

- In Quebec, costs are shared 25 percent by the province, 25 percent by the federal government and 50 percent by the producer.

- Coverage to 80 percent of average yield is attainable in Ontario and Quebec.

- Ontario uses commission agents to market and service the program.

- Alberta is the only jurisdiction to offer a high-risk subsidy.

The Alberta crop insurance program encompasses all or most of the directly comparable features found in the other provincial and U.S. programs.

1.6 Effects Of The Alberta Hail And Crop Insurance Program On Resource Sustainability

It is estimated that the combined losses from major soil degradation problems are costing Alberta producers in excess of $100 million per year through reduced productivity. Inappropriate farming practices are responsible for a significant portion of the decline in the quality of Alberta soils. Crop insurance, to the extent that it influences cropping practices, has an effect on the sustainability of the soil.

There are three areas of the AHCIC program that impact negatively and one that impacts positively on the sustainability of our soils:

- Fallow-stubble coverage differential that encourages summerfallow rather than continuous cropping. This leaves the soil susceptible to erosion, organic matter decline, and groundwater recharge that leads to dryland salinity.

- The high-risk subsidy encourages cereal-fallow rotations rather than cereal-forage rotations. The latter is more conducive to soil conservation in many regions.

- Area-average coverage can mask the financial penalties associated with poor management practices. It is these poor managers' fields that are most susceptible to soil degradation.

- The Livestock Feed Security Program provides greater security to producers of forage crops and livestock which, in turn, encourages the production of forage crops on soils prone to salinity and erosion. The long-term effect should be a reduction in soil degradation.

1.7 Crop Insurance Research Projects

Instability has been an inherent characteristic of the prairie grain industry. Over the period 1960 to 1985, the average year-to-year variation in net farm income was 28.5 percent. Few other occupations face a year-to-year income variability of this magnitude.

Stabilization programs such as the Western Grain Stabilization Plan (WGSP) and others, including ad hoc programs, have helped to alleviate the problem, but only to a limited extent. When these payments are subtracted from total net farm income for 1984, Alberta producers actually had a negative net income from farming operations.

Research has shown that crop insurance alone cannot address this problem. Moreover, existing programs, while beneficial within the limitations of their mandate, do not provide the protection producers need, nor do they obviate the need for ad hoc emergency programs as evidenced by events in 1984 and 1985.

Considerable research has been carried out to address concerns of the existing crop insurance program, and to propose ways and means of enhancing the program. Additionally, researchers have designed two proposals to address the dual problems of widespread disaster due to natural causes and income variability due to market and production cost anomalies. The "Disaster Insurance Program" and "Prairie Grain Revenue Insurance Program" are reported briefly later in this chapter and in more detail in Chapters 7 and 8.

Continuing research is essential to adjust the crop insurance program to changing technology and conditions over time.

1.8 Recommendations And Conclusions

Three major recommendations presented are: development of a Prairie Grain Revenue Insurance Program, a Disaster Insurance Program and individual coverage for all producers with crop insurance.

These recommendations have been made in response to an expressed need by a prevailing number of producers and farm organizations throughout the hearings.

Their concerns include:

- A need for adequate insurance to cover input costs.
- A producer's coverage level and premium should not be affected by area-wide crop disasters.
- A need for low-cost protection against area-wide disasters.
- Reduce or eliminate need for *ad hoc* programs by developing long-term integrated programs to adequately stabilize the inherent volatility of production, price and markets.
- Coverage levels need to reflect an individual's productivity rather than area averages.

The recommendations appear in three sections:

- Prairie Grain Revenue Insurance Program; to address the producers' concerns relating to income uncertainty and instability.

- Disaster Insurance program; to develop a systematic approach to providing protection against occassional widespread disasters and to obviate the need for *ad hoc* programs.

- Crop Insurance; for the purpose of providing protection to producers against the short-term hazards of climatic perils.

Crop insurance is considered under three subsections: individual coverage, area-average coverage (which becomes irrelevant if individual coverage is accepted) and general recommendations that are relevant for crop insurance regardless of the coverage mechanism adopted.

Approximately 40 separate issues were identified as a result of the public hearings. The recommendations are organized to address these specific issues. Some form of a development plan is required if these recommendations are to be implemented. To aid in this process, each recommendation is labelled to indicate a desirable time frame for implementation:

1987 - Recommendations which can and should be implemented for the upcoming crop year.

1987(p) - Recommendations which are preferred to be implemented for the 1987 crop year. Necessary studies should start in 1987 for 1988 implementation at the latest.

1988 - Recommendations for which some short-term research and consideration may be required prior to implementation. Should be in effect for the 1988 crop year.

C - Continuous.

1.8.1 Prairie Grain Revenue Insurance Program

Background

Over the period, 1960 to 1985, the average year-to-year variation in net farm income was 28.5 percent (Chapter 7). Major source of income variation for crops results from shifts in production levels and price. Crop insurance has been designed to deal with crop yield instability, not price variability problems, market constraints or production costs increases.

While large payments have been made under the Western Grain Stabilization Plan, it is not sensitive to particular conditions at a regional or an individual producer level. This lack of sensitivity was raised at the hearings, where producers expressed the need for higher coverage levels under crop insurance to cover input costs. For reasons given, a combination of WGSP and crop insurance does not satisfy the producer in meeting this need.

A Prairie Grain Revenue Insurance Program, as proposed, would provide an explicit price policy closely integrated with crop insurance.

An example as to how the program could work is as follows:

- The program would provide a price guarantee equivalent to 80 percent of the ten-year moving average price on quantities of grain in accordance with an individual's coverage under crop insurance. If an individual had 70 percent coverage under crop insurance and his long-term average yield was 50 bushels, the price guarantee payment, if triggered, would apply to 35 bushels regardless of his actual yield for that year. If he realized 20 bushels per acre, he would receive a crop insurance payment at market price on 15 bushels plus the price payment on 35 bushels. Assuming the guaranteed price (long-term average price) to be $4 per bushel and market price at $3 per bushel, payment under the program would be $1 per bushel. In the above example, the producer would get $45 per acre (15 bu x $3) from crop insurance on his production shortfall plus $1 per bushel from the price guarantee ($15) for a total of $60 on his shortfall. For the realized 20 bushels per acre, he would get $60 from market price and $20 from the price guarantee or $80. In total, he would realize $140 whereas he would have realized only $105 with crop insurance only.

The program could be made available to producers without crop insurance, however, the price guarantee would only apply to his actual yield. If he produced 20 bushels, the price guarantee would apply to 20 bushels. His coverage level under the price guarantee would be some percentage of area-average yield, e.g. 70 percent. If the long-term area-average yield was 40 bushels per acre, the price guarantee would apply up to 28 bushels, but not to exceed his actual production for that year.

All quantities of grain produced in excess of crop insurance coverage would be marketable at the prevailing market price without support.

Advantages of this program are:

* It would provide, along with crop insurance, a minimum form of direct income stabilization to prairie grain producers;
* It would complement and reinforce the existing crop insurance program;
* It would not detract from the broader and more general purposes of the WGSP;
* It would free the CWB to set its initial prices in accordance with the market forces;
* The quantity of crop sold above the volume eligible for the price guarantee, would:

a) Permit individual farmers to decide for themselves how to allocate their resources and to control or not to control their production;

b) Grains would be priced in a way that would not disadvantage the livestock producer.

* It would obviate the need for emergency ad hoc programs.

* It should add little, if any, further costs to the total costs already committed to the overall stabilization of the grain industry.

Recommendations

It is recommended:

1987 - That immediate initiation of the "Prairie Grain Revenue Insurance Program" be pursued at the highest level, with consultation among the premiers of the prairie provinces, the federal minister of agriculture and the federal minister responsible for the Canadian Wheat Board.

- Total costs of the program should be shared equally between the federal government, provincial government and the producer.

- That the program be voluntary.

- That the program be available to producers with or without crop insurance.

- Where a producer takes both WGSP and the "Prairie Grain Revenue Insurance Program", there may be a need for some integration to avoid double indemnities and provide associated premium adjustments.

- That the program be administrated through AHCIC.

- Subject to approval to proceed, considerable additional research will be required in respect to program development and administration.

1.8.2 Disaster Insurance Program

Background

The two back-to-back major droughts in Alberta during 1984 and 1985 had a severe impact on many aspects of the Alberta Hail and Crop Insurance Program:

- The average-area yields, particularly in Risk Area 1 and 2 fell drastically.
- Crop insurance coverage levels have begun to decline under the ten-year moving-average base.
- Indemnities in the amount of $419 million were paid out during 1984 and 1985.
- Good experience coverage adjustments and premium discounts earned over time by producers in many instances have been lost through no fault of their own.
- The AHCIC reserves and the Canada-Alberta reinsurance reserves moved into a deficit position.

A need exists for a "disaster" insurance program at affordable premiums to alleviate uncertainties among producers and greatly reduce the need for government emergency ad hoc programs.

The advantages of a disaster program are:

- Provide governments with a systematic budgeting process to offset the problem.
- Provides a mechanism whereby the producer would share in the cost.
- Provides producers the opportunity to participate in a low cost disaster insurance program without having to participate in basic crop insurance.
- Provides producers with the knowledge that they do have some protection in the eventuality of a disaster.
- A disaster program available to all producers, regardless of whether they participate in crop insurance or not, would go a long way in easing governments out of _ad hoc_ emergency payments, particularly if the premium is kept very affordable to the producer. A high level of participation is required.
- It would still be necessary to maintain the reinsurance funds for basic crop insurance, but perhaps at a lower level.
- The cost of the disaster insurance program should be more than offset by the elimination of _ad hoc_ programs. Disaster insurance would trigger a payment only on an individuals' cropping record, as in crop insurance, if the individual is within the disaster area. Hence, blanket area-wide payments would be avoided.
- Contingent upon the deductible for basic insurance (20-80%) being made available, it would be to the advantage of a person with basic insurance to take out "disaster" insurance since this would pick up the deductible and increase his claim should a disaster be declared. The premium and coverage could also be indexed in such a manner that a disaster would not impact on either premium rate or coverage for basic insurance.

- The person with only "disaster" insurance would be covered at perhaps a lower level than basic coverage, say at 50 percent of long-term area-average yield.

Recommendations

1987(p) - Work should start immediately on development of a long-term disaster insurance program for implementation by 1988.

- The disaster insurance program should be an integral part of the basic insurance program, not a separate and independent policy. Contingent upon Federal involvement, integration could be achieved by appropriate amendments and changes in the existing Basic Hail and Crop Insurance Program and the Canada-Alberta insurance agreement.

- The disaster program should include the following conditions:

  * Disaster insurance should be voluntary.
  * All Alberta producers should be eligible to participate whether they have crop insurance or not.
  * Extraordinary indemnities of crop production loss realized by a defined disaster would be paid from the disaster fund.
  * The fund would be established by legislation and remain separate and distinct from AHCIC funds.
  * The fund would be administered through the AHCIC and payments of indemnities would be based on the same criteria as now used by the AHCIC.

  - There would be no double indemnities vis-a-vis AHCIC payments and disaster payments.
  - The Livestock Feed Security Program needs examination to determine how well it meets the need for a "disaster". There may be a need for a livestock feed security provision under the disaster program.

- The disaster would be based on area criteria such as: Consecutive years of loss; losses beyond a certain magnitude; and that a certain proportion of the producers in the area would suffer a defined loss.

  - An area designated as a disaster area should be large enough to give meaning to the disaster insurance program. For example, an area somewhere between 10 or 15 townships may be a suitable size for a "disaster" area.
  - The term "disaster" might be defined, for example, as one where over 50 percent of the producers in the designated area received crop insurance indemnities and where the total indemnity/total liability ratio for the designated area exceeds 15 percent.

- "Disaster" insurance implies systematic budgeting expressed as an annual premium levy sufficient to pay out disaster indemnities as experienced at infrequent intervals.

  - Total cost (premiums and administration) should be equally shared between the federal government, provincial government and producer. An initial contribution to the fund may be required by governments.
  - Premiums should be established at an affordable level, e.g. 50 cents to 1 dollar per acre cost to the

producer. Based on predicted revenues, coverage levels could be based on the probability of risk from disaster as defined.

- Coverage levels might be somewhat lower than used for basic crop insurance, perhaps in the area of 50 percent of the long-term area-average yield.

- Indemnities should be sufficient to offset the major effects of an area-wide crop disaster, while at the same time protecting the fundamental integrity of the basic crop insurance program.

  * When a crop insurance area is declared a "disaster area", extraordinary indemnities would be paid from the disaster fund. Coverage levels and premium rates under crop insurance would, therefore, not be affected. The actuarial integrity of crop insurance is maintained without premium or coverage adjustments for the "disaster" portion of indemnties.
  * If a coverage deductible (20-80%) is applied to basic crop insurance, then a producer with both crop insurance and disaster insurance would receive full indemnity.

  * Once the disaster area is defined, indemnities would be based on individual yield adjustments as is now done under crop insurance.
  * An automatic formula would trigger the disaster insurance provision for an area when a major crop loss disaster is encountered. Approved claims based on yield adjustments would be indemnified both with respect to "disaster" and crop insurance without double indemnity. A producer with only disaster insurance outside a declared disaster area would receive no indemnities.

- Perils subject to "area-wide" risk would be included under "disaster" insurance, e.g. drought, frost, snow and flood.

- Considerable study would be required to determine the probability of disaster and premium rates to maintain actuarial financial integrity of the program.

1.8.3 Crop Insurance

1.8.3.1 Coverage

The coverage level for crop insurance is a function of yield and grain prices. In dollar terms, coverage level declines with declining grain prices. Because of declining grain prices, considerable concern was expressed at the hearings with respect to the inadequacy of crop insurance to cover input costs. Concern was also expressed with respect to the low prices realized for harvested grain which may be below input costs.

As stated under principles of crop insurance, Chapter 2, crop insurance can only insure against loss of yield. Crop insurance should never compensate at a price higher than market price. If this is done, the system will be open to widespread abuse because a producer could actually receive more money for not growing or harvesting a crop than he could receive had he put forward every effort to grow or harvest his crop.

A third concern expressed was the reduction of coverage levels caused by the widespread drought of 1984 and 1985. This resulted in loss of good experience for many producers as well as reducing the 10-year moving area-average yield.

A coverage deductible could be applied, e.g. 20 - 80 percent, where the producers would not be covered on the bottom 20 percent of his long-term average yield. For instance, if his average yield was 50 bushels per acre, his coverage would extend from 10 bushels to 40 bushels. This would help overcome abuse and provide greater flexibility to the producer and the adjuster in writing a crop off insofar as insurance is concerned.

Recommendations

- Coverage levels must remain on a yield basis tied to market price for payment purposes. Price and market protection are discussed in "Prairie Grain Revenue Insurance Program".

- Under the Canada Crop Insurance Act, crop insurance cannot exceed 80 percent of the long-term average yield. It is recommended that an 80 percent coverage option be adopted in addition to the existing 60 and 70 percent options.

- In consideration of the declining dollar coverage due to falling grain prices, the Alberta coverage restoration program should be continued for 1987.

- With a view to moving towards a system of establishing coverage levels less sensitive to yield variation in any one year, a study is required to determine the feasibiliy of adapting a 15-year moving average adjusted for trends in technology.

1.8.3.1 Individual coverage

Throughout the hearings, producers expressed concerns that the existing methods used in determining coverage levels based on risk-area average and soil classes do not reflect the yield variation due to differences in individual management.

Coverage adjustments for good experience is based on number of claims and the loss-to-premium ratio and does not necessarily reflect the actual yields. Hence, many producers are under-insured and many are over-insured. Over insurance can lead to abuse of the system. These observations are backed by research findings (Chapter 7).

Given these concerns, producers are generally of the opinion that some means is required to more accurately reflect an individual's production capabilities relative to his/her peers. The only accurate method for yield determination is to measure an individual's production. Coverage and claim status can then be related directly to individual yield history.

Individual coverage is now an option. However, there are only 450 producers using it. For every three that take the option, two drop off and return to basic coverage. Why is this? Briefly, it is because the traditional area-average coverage system has a number of significant advantages over individual coverage (Chapter 8). Under the present system, unless an individual has very high yields, individual coverage is simply not competitive with area-average coverage. Many of these anomalies have evolved over time in an attempt to reward good experience. This has resulted in coverage estimates which at best are rough proxies of an individual's actual yields.

There are a number of advantages associated with individual coverage:

- Coverage adjustment for good experience would be withdrawn. Coverage level adjustment as applied tend to significantly increase the levels above the mean. Basic premiums are presently "top loaded" by 40 percent largely to compensate for coverage adjustments for good experience, i.e. few claims and low premium-to-loss ratios.

- "Top loading" of premiums could be greatly reduced resulting in considerable cost savings, assuming everything else remains the same.

- Each producer would have an insurable production level based on his own productivity.

- It may be possible to establish a premium rate by crop on a provincial risk basis as is done in Ontario and Quebec. This would overcome the need for a high-risk subsidy, risk areas and soil classification.

- Premium discounts and surcharges would apply depending on individual experience.

- Abuse of the system would be reduced.

- Contingent upon individual coverage, there has to be an offset for acceptability. An offset could be to include a coverage level option of 80 percent of an individual's moving-average yield with the total cost of the program shared on a tripartite basis between the producer, federal government and provincial government. The total cost of the program would increase by about 37 percent. The cost to the producer and the federal government would remain about the same. The cost of enhancing the program would be borne mostly by the province.

The main disadvantages to individual coverage are:

- The logistics of verifying yields for all policy holders.
- Many producers do not have acceptable yield records to establish a five- or 10-year moving-average on individual yield. Initially, area-average yields, perhaps adjusted for experience, would have to be used and replaced by actual yields over time. Other means may need to be evaluated.

Aside from the disadvantages, by moving to individual coverage the program can be greatly simplified, particularly if a base premium rate can be established provincially. There may be no need for risk areas, soil classification, fallow-stubble differentials, high-risk subsidies or coverage adjustments. Premium rates could be discounted or surcharged depending upon individual experience. Wide variation in management would be reflected in individual productivity. Objections to resource neutrality would be overcome.

Recommendations

1988

- Contingent upon 80 percent or 20 - 80 percent coverage option being made available and a tripartite arrangement for the sharing of premiums, individual coverage for all producers should be adopted by 1988. The need for a system to determine coverage level by phasing in actual yields as they become available is recognized.
- Individual coverage be based on a form of indexing of the basic area coverage; the index is to be based on a moving average of the producer's individual yields compared to an area-average yield.
- Premium rates be discounted or surcharged depending upon an individual's loss experience.

1.8.3.2 Area-average coverage

Should a complete transition to individual coverage not be accepted, then several major modifications would be required with respect to the existing program. Area-average coverage should be compatible with the individual coverage option. Research results (Chaper 7) shows considerable variation within risk areas. Also, lower classified soils generally have higher risk, which may not be fully reflected in premiums. It appears that there may be considerable cross subsidization both within and between risk areas. Coverage adjustments which do not necessarily reflect actual yields result in both under- and over-coverage. The way it is applied, far more producers have coverage levels above the area-average yield than below. Associated problems caused by this skewness are explained in 1.8.3.1.

Recommendations

- To reduce abuse, all producers with a high frequency of claims and/or high loss-to-premium ratios should be placed on individual coverage.

- Average adjustment method to more accurately reflect actual yields, needs to be developed.

- Risk areas and soil classifications require refinement to achieve greater homogeneity and improved equity in the system.

- With a view to moving towards a system of establishing coverage levels less sensitive to yield variation in any one year, a study is required to determine the feasibility of adapting a 15-year moving average adjusted for trends in technology.

1.8.3.3. General recommendations

Premiums

Producers require more insurance protection, but do not appear to fully realize the extent to which premiums escalate with increasing coverage.

Recommendations

1988 - Total program costs (administration and premiums) should be shared equally between the federal government, the provincial government and producers. This is contingent upon moving to individual coverage and an 80 percent coverage option being made available.

1988 - Premium surcharges should be applied to producers with high claims while discounts should be credited to producers with few claims.

1988 - The premium rate should be applied directly to a contract holders coverage level. Changes in dollar-per-acre coverage would result in changes in dollar-per-acre premium.

Abuse

Producers are concerned with the potential for abuse and/or misuse of the current crop insurance program. The review panel received a strong endorsement to recommend methods to tighten the system.

Recommendations

1987(p) - The AHCIC should consistently enforce their prerogative to temporarily disqualify producers from the crop insurance program in instances of fraud. Producers realize the corporation wishes to err on the side of the producer, but feel a tightening of this area is warranted.

1988 - If the program is to be maintained in its present form, individual coverage should be mandatory for clients with high incidence of claim

1987 - Where indicated, the AHCIC should conduct strict field inspections, random pre-harvest checks and perhaps utilize weather data in verifying the legitimacy of a claim.

1987(p) - Individual claim submissions should be analyzed relative to area. The AHCIC may have to restrict the number of successive years in which a producer can receive a payout.

1987 - Penalties for misuse or fraud should be reviewed in terms of severity. If deterrents are not effective, increased frequency and magnitude of penalties are warranted.

Policy issues

Recommendations

1987 - Crop insurance must remain voluntary.

1987 - An independent appeal tribunal should be established to separate the AHCIC from disputes with producers. Members of the appeal tribunal should be appointed by Order-in-Council and be fully knowledgeable of the program.

1987(p) - The research capability within the AHCIC should be increased and co-ordinated with analytical capabilities within Alberta Agriculture. Considerable work can now be done since significant historical data is available.

1988 - Enhance the AHCIC computer systems' capability throughout the province. District offices should be "on line" with head office. This should be initiated as a pilot project and reviewed in terms of cost and effectiveness.

1987 - Where an individual significantly increases his production base of any enterprise, the AHCIC may insist that coverage be based on a weighted average of the area average yield and his coverage level as of the previous year.

1987 - Alberta Agriculture extension staff need to work more closely with AHCIC personnel so as to be more informed with regard to crop insurance program on an ongoing basis.

1987 - Additional investigative resources may be required for areas of possible fraud. There is a need to co-ordinate investigations with pertinent information that may be available in Alberta Agriculture programs.

1987(p) - Reinsurance arrangements should be reviewed to ensure the financial integrity of the crop insurance program.

1987 - Training of district staff should be given a higher priority.

1987 - Additional positions should be provided within the AHCIC to ensure the availability of trained management personnel to replace senior staff approaching retirement.

1987(p) - The AHCIC must develop a more market oriented approach to selling crop insurance.

- The head office of AHCIC should remain intact and in Lacombe.

- To ensure continuity in AHCIC management, consideration be given to arranging understudy positions for senior executives.

1987 - The Board of Directors should be increased to nine to assure geographical representation, particularly from the Peace River area. There should be continued representation from irrigation districts. The Directors should be appointed by Order-in-Council on a rotational basis for a three year term with a maximum of two consecutive terms. A member of the legislature should be appointed to the board, however, the chairman should not be a member of the legislature. In this way, the government would have greater flexibility and perhaps better representation. All other Directors should be producers. Ex officio representation from Agriculture Canada and Alberta Agriculture should also be appointed.

Administrative issues

Recommendations

1987(p) - More information should be made available to producers in written form and through seminar presentations. Seminars could be an integral part of other agriculture extension meetings.

1987 - To provide producers with concise, up to date information, district staff should be knowledgeable in all aspects of crop insurance.

1987(p) - Answering machines should be installed in district offices.

1988 - Review the need for additional satellite offices.

1987 - Ensure premium rate and coverage manuals are available to all producers prior to the election deadline for insuring crops.

1987 - Pre-harvest inspections, especially hail adjustments, should be more prompt so the producer can proceed with field operations.

AHCIC performance

Recommendations

1987 - To assure consistency in adjustments, field personnel should receive standard training and be fully competent in all aspects of field work. Working knowledge of all policy changes should receive a high priority.

1987(p) - Personal observations regarding the attitude of claimants upon inspection should be recorded separately from the adjuster's form and remain confidential to the corporation. The provision for remarks on "attitude" should be removed from the form.

1987 - Both pre-harvest and post-harvest inspections should be used when necessary to adjust a claim.

Livestock Feed Security Program

Recommendations

The existing program must be thoroughly reviewed to make sure it is actuarially sound and that it meets the needs of the producers.

1988 - Contingent upon appropriate modification make the Livestock Feed Security Program applicable throughout the province.

1988 - Further study is required to determine the feasibility of the following: providing coverage levels and/or claims on an individual rather than on area average basis, eligibility of older hay fields, hail endorsement, insuring pastures and allowing a producer to insure a specific portion of his/her forage acreage.

C - The actuarial integrity of the program should be continually monitored to ensure a financially sound and equitable program.

1988 - Study the feasibility of including an option of coverage on the year in which forage is established.

Experience adjustment

Producers argue that an individual's coverage should not be affected by an area-wide disaster. In addition, good experience credits decline at a faster rate than they can be acquired.

Recommendations

1988 - Premium adjustments should include surcharges as well as discounts and be calculated separately for each crop.

1987(p) - The rate of increase and decrease of the coverage adjustment mechanism should be re-examined. At present, the rate of decline exceeds the rate of adjustment increase.

1988 - An individual's premium and coverage level should be indexed to participants in the immediate area to offset the effect of coverage level adjustments due to widespread disasters.

Deadline dates

Recommendations

1987 - The seeding deadline dates should be reviewed with respect to regional variations in the length of the growing season.

1988 - Regulations to receive a summerfallow designation on ploughed-down crops should be reviewed by crop and be adjusted to allow for regional variations in the length of the growing season.

1987(p) - The application of interest charges on unpaid premiums should be set back to October 1 to allow producers a chance to receive some remuneration from the sale of crops.

1987(p) - For "pure" alfalfa stands, the plough-down date for fallow designation eligibility should be the same as that set for clovers.

Spot-loss provision

Crop insurance is intended to be a production guarantee set at some percentage of total average productivity to provide insurance against disasters from natural perils. Spot-loss coverage is not practical due to the difficulty in assessing pre-harvest damage of many perils, potential for high losses and prohibitive cost and actuarial integrity and equity between producers.

Recommendations

- Spot-loss coverage other than under the hail endorsement, is not recommended.

C - Spot-loss from flood may be considered under a disaster program.

Summerfallow/stubble

Recommendations

1987(p) - The fallow-stubble yield differentials are wider in many risk areas than actual yield data indicates. Yield differentials should be re-adjusted to reflect current spreads and continually changing technology.

1987(p) - When fallow-stubble differentials are small, the distinction may be omitted.

Types of crops insurable

Recommendations

C - Continued research is required to assess the feasibility of providing insurance for fresh vegetables, market gardeners and forage seed producers.

1987(p) - The feasibility of insuring different varieties of potatoes on separate contracts should be examined. Potato prices vary considerably depending on end use.

1987(p) - Research is required to assess some minimum level of coverage for new crops lacking historical yield data, e.g. cover a production loss not to exceed 50 dollars per acre until historical records are accumulated.

1987(p) - Consideration should be given to insuring cereal silage crops (annual crops) separately from cereal grain crops as an elective.

Perils insurable

Recommendations

1987 - Coverage should continue to be offered as insurance against an assortment of natural perils (all perils) rather than on an individual peril basis.

Wildlife depredation

Private lands are an integral part of the habitat base required to sustain wildlife. Society, as a whole, has ultimate responsibility for the preservation of wildlife and wildlife habitat. Full compensation to producers who have sustained wildlife damage is necessary to encourage the preservation of lands suitable for wildlife habitat.

Recommendations

1987(p)- A comprehensive program should be developed to fully reimburse producers for all losses due to wildlife damage. Compensation should continue to be paid through a wildlife fund without premium costs to farmers. Administration of the program should remain a responsibility of the AHCIC.

Quality adjustments

Recommendations

1987(p) - An evaluation of the quality adjustments mechanism is required to ensure that no inequities in the factoring process exist for one crop relative to another. A better method of factoring quality for soft white spring wheat is needed.

- Yields should not be factored up if grades are better than the base grade used by the AHCIC.

1987 - Quality adjustments should be used only for adjusting claims, not for establishing coverage levels.

Farm contracts

Recommendations

1987(p) - The 15 mile limitation required for separate contracts should be reviewed but maintained unless evidence is provided to indicate a problem with grain movements.

Farm-size discounts

Recommendations

1987 - The farm-size discounts should be discontinued since research indicates there is little or no reduction of risk as farm size increases.

Irrigation vs. dryland

Combining irrigated and dryland acreages reduces the chance of initiating a claim since yields on irrigated lands tend to outweigh any deficiencies encountered on dryland.

Recommendations

1987(p) - Separate contracts should be allowed for crops grown on irrigated lands and dryland. Both pre-harvest and post-harvest inspections should be conducted where the same crops are grown, to counteract the potential for grain movement and/or difficulties in adjusting.

Straight hail insurance

Recommendations

1987(p) - Straight hail insurance should remain an option to producers, with a review of coverage levels available to vegetable growers who do not sell through a marketing board.

Price options

Crop insurance is a production guarantee; however, for practical administrative reasons, premiums and levels of coverage are expressed in dollars. Some producers have expressed confusion with this practice, claiming they misunderstood the degree of protection purchased. Prices used for crop insurance must be close approximations of market price.

Recommendations

1988 - Premiums and levels of coverage should be expressed in bushels (kg) per acre when producers make crop elections. Prices for "Board" grains could be set equal to the CWB initial prices when announced, while the futures market may be utilized to establish non-board prices. Further research should be conducted to assess the feasibility of this approach.

Speciality crops

Recommendations

C - Boundary limitations delineating areas in which speciality crops are approved for insurance should be continuously reviewed to accommodate new adaptations in technology (e.g. earlier varieties).

1987 - Eligibility to insure beehives should be set at 50 hives.

High-risk subsidy

The high-risk subsidy was established by the Province of Alberta to ensure that no producer pays a premium in excess of 6 percent or 8 percent at the 60 and 70 percent coverage levels, respectively. The high-risk subsidy generally applies to lower classified soils which, on average, have lower yields and higher risks.

Recommendations

1988 - The high-risk subsidy should be maintained within the context of the existing program. If the individual coverage recommendation is adopted, risk could be spread over all participants with credits and surcharges levied on an individual basis. This implies a uniform premium rate throughout the province.

Privatization

During the course of the public hearings, several private insurance agents expressed interest in selling all-risk crop insurance and/or hail endorsement insurance. Potential benefits to which they alluded include an established network of agents and offices, efficient and professionally trained sales personnel, aggressive selling and availability of other farm insurance policies.

Recommendations

- The interest shown by the private sector in marketing all-risk crop insurance should be considered in developing a future marketing strategy.

1.9 Conclusions

Far reaching recommendations have been presented with the objective of enhancing the crop insurance program to better meet the needs of the producer. Because of the existing cost-price squeeze, producers have generally argued for a system that would protect their input costs at affordable rates. As shown, it is impossible to meet this need by crop insurance alone. In addition, others with relatively low risk need disaster protection at low cost.

It is the desire of governments to withdraw from *ad hoc* programs in favor of systematic cost-sharing programs that can be developed on an actuarial base. This will allow for systematic budgeting and the spreading of costs more equally over time. Producers in general are not happy with *ad hoc* programs because of inequity and the uncertainty of whether any payment will be made.

Finally, producers in general feel that individual coverage would be more equitable and help overcome abuse.

To meet these challenges, three major recommendations have been made:

- Entering into immediate negotiations with the federal government and Manitoba and Saskatchewan governments for development of a Prairie Grain Revenue Insurance Program with a tripartite costs sharing arrangement.

- Developing a "disaster" insurance program with a tripartite cost sharing arrangement for 1988.

- Moving to individual coverage, contingent upon offering an 80 percent coverage option (in addition to 60 and 70 percent now available) and equal sharing of costs between each level of government and the producers for 1988.

CHAPTER 2

PRINCIPLES OF CROP INSURANCE

Few farm programs are as complex or involve as many aspects of the agricultural industry as crop insurance. Crop insurance relates to a wide range of unpredictable natural hazards, thousands of producers and their individual production practices, fair treatment of those producers in terms of premium rates and coverage levels, indemnities that vary enormously from year to year and two levels of government involved in the financing and administration of the program.

This complex set of interrelated functions and activities can only be understood in terms of a number of basic principles which provide the overall framework and coherence for the crop insurance program. These principles have intensely practical consequences and, when ignored or violated in the structure and operation of the crop insurance program, can create serious and adverse results for producers participating in the program.

The discussion which follows examines the relationship between the more important basic principles and the major components of the crop insurance program.

2.1 Risk And Uncertainty

A producer is faced with two types of events when he plans for the future. One of these events is risk; the other may be referred to as uncertainty.

In the case of risk, the possible outcomes of a course of action can be measured in the form of a set of probable events. When one flips an unbiased coin, the possible outcomes--heads or tails--can be quantified. If the coin is flipped 100 times, there is a very high probability that heads will appear 50 times.

In the case of pure uncertainty, there is no quantitative way to predict the outcome of an event.

When risk is involved, there is a case for insurance. For the individual, the possible loss of his house through a fire is an uncertain event. For a fire insurance company, however, the probability of the loss of a particular house through fire can be measured in the form of a risk.

Crop insurance can be used to convert uncertainty for the individual producer to a risk situation for a large number of similar producers. The price of the conversion is the premium paid for the insurance.

2.2 The Pooling Of Risks

The "pooling of risks" is an essential part of any insurance program. From an actuarial point of view, individuals included in any given "risk pool" should be as similar or as homogeneous as possible. Homogeneity among individuals within any given "risk pool" makes it possible for each individual to pay the same premium for any given level of coverage; each individual has the same probability of collecting a claim or indemnity against the insured hazard.

The primary objective of the "pooling of risk" is to provide a basis for the conversion of uncertainty for each individual to a risk situation for a group of similar individuals. The pooling of risk among a large number of similar individuals, the development of probable outcomes based on the pooled risks, and the establishment of insurance premium rates and coverage levels based on those probabilities, is a fundamental principle underlying any form of insurance, including crop insurance.

2.3 Homogeneous Risk Areas

From an actuarial point of view, the variation in soil types, climatic conditions and other natural hazards is too great within the province to establish one coverage level and premium rate that would be equitable among producers and sound from a long-run actuarial stand point.

For crop insurance purposes, an attempt is made to group similar conditions and risks together in the form of a risk area. Ideally, the criteria for an actuarially sound crop insurance program within a given risk area would include the following:

- The expected average yield over a period of time for all producers within the risk area should be the same;
- The expected average annual deviation of individual yields from the average yield should be the same for all producers in the same risk area;
- The individual crop yields should be distributed around the average yield in a random, independent and normal way within any given year, and over a long-run period of time;
- All producers within the given risk area should have similar management abilities.

If these criteria are met, producers within a given risk area will be treated in an equitable manner in terms of their premium rates and coverage levels, and in terms of indemnities paid.

In the attempt to come as close as possible to the ideal situation, the crop insurance risk area should be based on similar soils, climatic conditions, precipitation patterns, technological conditions, heat units and management abilities. In general, the risk exposure units (individual producers within a risk area) should have the same probability of suffering or gaining from losses or benefits resulting from the impact of natural hazards on crops within the risk area. This assumes, of course, that the natural hazards impacting on a given risk area occur in an independent and random fashion within any given year and over a series of years.

Practical problems occur when a defined crop insurance risk area is not, in fact, homogeneous. The established coverage level or premium rate may not have a uniform or equitable application to all producers in the risk area. Some producers may be on superior soils; other producers may possess exceptional management skills; still other producers may have a higher yield variance in their particular region of the risk area.

There are two possible ways of attempting to cope with these types of problems:

- Special adjustments may be made to the coverage levels and premium rates to cope with anomalies in the risk area; or

- The whole risk area may have to be redefined with the objective of establishing more uniform and homogeneous conditions within a newly defined risk area.

2.4 Expected Yield And Coverage Levels

Crop insurance is designed to protect producers against abrupt and unpredictable reductions in their future crop yields. In designing a crop insurance program, one of the first tasks is to establish the basis for the probable behaviour of expected future crop yields. This future yield basis represents the starting point for the calculation of crop insurance coverage levels.

Because no one can predict what the crop yields will be for some future period, it is a common practice to select some historical base period that can be used as the basis for the projection of expected future crop yields.

In selecting the historical base period, several questions and criteria need to be kept in mind:

- Do trends or cycles appear to underlay the crop yield data included in the historical base period, and are the trends and cycles likely to reappear in the future?

  In the case of the recurring cycle, the historical yields used for the purposes of calculating expected future yields and coverage levels should cover a base period long enough to coincide with the full life of the cycle. It is obvious that coverage levels based on the bottom side of the cycle will tend to underestimate the appropriate coverage levels.
  When a trend yield increase underlies the yields included in the historical base, and if the trend is likely to continue in the future, expected future yields and coverage levels must be adjusted, accordingly. These trends are generally recognized in the form of a "moving average" calculated over some appropriate length of time. If the moving average base period is too long (e.g., 25 years), it tends to underestimate current yields, i.e., provides a coverage level that lags behind the trend increase in current yields. If the moving average base period is too short (e.g., five years), it may provide an unstable base for the calculation of coverage levels, i.e., one or two consecutive years of exceptional yields (above or below the trend average) create accentuated changes in the base period used to calculate coverage levels.

- The base period yield data used for the calculation of coverage levels within a given risk area should reflect homogeneous conditions, i.e., similar soils, frost-free days, precipitation patterns, etc. Yield data based on a variety of soils, frost-free days and precipitation patterns will result in coverage levels that may be consistently too high for some producers and too low for others.

- The yield data used for the establishment of expected future yields and coverage levels should be randomly and independently distributed over a series of years and within each of the years if biases and distortions are not to emerge in the crop insurance program in future years.

2.5 Expected Loss-Costs And Premium Rates

Every coverage level established under a crop insurance program has an appropriate and corresponding premium rate. From a purely statistical and actuarial point of view, the premium rates should be based on the same sample (or total population) of data used for the calculation of expected yields and coverages. For example, if the coverage levels for a particular risk area are based on a moving average yield over 20 years (for given soil types, precipitation patterns, management practices), the same data should be used for the calculation of the corresponding loss-costs and premium rates.

The yield data, coverage levels and premium rates are interrelated and are an integral part of the actuarial structure set for crop insurance within a given risk area and for individual producers in that risk area.

It is not uncommon in practice, however, to find expected yields and coverage levels based on a set of historical yield data which differ from that used for the calculation of the corresponding loss-costs and premium rates. This generally happens when a longer-run historical yield base is selected to provide greater stability for the premium rates and a shorter-run historical base is selected to more closely reflect current trend yield increases.

Departures from the basic statistical norm--crop insurance coverage levels and premium rates calculated on the same historical yield data base--may or may not result in significant practical distortions and biases in the crop insurance program depending on the extent of the differences which result from using two different base periods. But the fact that significant differences can occur dictates that great care should be exercised when two different base periods are used to calculate the respective coverage levels and premium rates.

2.6 Actuarial Soundness

There are many ways in which one can measure the actuarial soundness of a crop insurance program. However, the following standards are generally applied in deciding whether or not the program meets the test of actuarial soundness.

- Given an appropriate and sufficiently long base period, the premium rates set for the provincial program should yield a revenue sufficient to cover the expected loss-costs (indemnities paid) incurred under the provincial program. Whether or not the federal or provincial government subsidize or cover part of the necessary premium income, is incidental to the basic actuarial requirements of the program. Public subsidies can be factored into the crop insurance program after the basic actuarial requirements of the program have been determined.

- If the crop insurance risk areas have been properly defined, and if appropriate coverage levels and premium rates have been established for each risk area, total premium income should balance total indemnities paid out in each of the respective risk areas over a sufficiently long period of time. If this balance is not achieved with each risk area, while at the same time maintaining a balance between premium income and indemnities at the provincial level, this means that some form of cross-subsidization must have taken place among the risk areas.

- Equity and fairness among insured producers within a crop insurance risk area mean that the individual producers' premium rates should yield an income sufficient to balance the total expected indemnities paid to him over a long-run period of time. If this criterion is not met, while at the same time maintaining a balance between premium income and indemnities paid at the risk area level, it means that some producers are cross-subsidizing other producers within the same risk area.

This does not mean, of course, that the individual producer's premium income should exactly balance the indemnities paid to him in any specific year, or even over a short-term period of time; it simply says that a long-run balance should be achieved at some point in time.

In general, actuarial soundness in a crop insurance program not only implies the overall financial integrity of the program, but it also means equity and fairness among risk areas and among producers within a given risk area.

Actuarial soundness in a crop insurance program does not preclude governments from subsidizing parts of the program. But this subsidy, when it occurs, should be consistent with the basic test of actuarial soundness.

2.7 Neutral Effect On Resource Use

Coverage levels and premium rates for risk areas and for individual producers should be set in a manner consistent with efficient resource use and good farm management practices within the agricultural industry.

For example, a high-risk, low-yield soil should be reflected, accordingly, in corresponding crop insurance premium rates and coverage levels. If it means that crop insurance is not affordable or acceptable to producers on that soil type, and if for some reason, government decides these producers should be protected against the hazards of nature, then other policies, not crop insurance, should be developed to achieve that objective.

If some producers are induced to leave a crop insurance program because the premium rates and coverage levels do not reflect their basic productivity and farming practices, or if other producers gain unduly from the premium rates and coverage levels applied to them, then the crop insurance program is not "neutral" in terms of its effect on resource use in agriculture.

A crop insurance program which is neutral in its effect on resource use should not dictate which crops should be produced or which land should be used for crop or livestock production; it should complement and reinforce desirable and recommended production and management practices.

2.8 Crop Insurance Is Yield, Not Price, Insurance

It is to be emphasized that the crop insurance program is basically a yield insurance program, not a price or an income support policy. Fundamentally, the producer pays a premium rate, expressed in bushels per acre, for a specified coverage level, expressed as well in bushels per acre.

From a practical and administrative point of view, the yields used for coverage levels and the premium rates are converted to monetary terms by use of a price factor. But this price factor should never exceed the going market price for the crop, if crop insurance is not to be used, inadvertently or otherwise, as a mechanism for a price support policy.

If the price factor used in crop insurance is established above the market price for the crop being insured, an incentive exists to abuse the program; the crop insurance corporation takes on the responsibility of a price insurance program for which it was never designed.

2.9 Special Adjustments

Frequently, the prior conditions necessary for an actuarially sound crop insurance program cannot be met completely at the level of the risk area or the individual producer for many practical reasons. Under these circumstances, special adjustments of various types have been used to correct for departures from the ideal conditions.

Many times it is not practical or financially feasible to define a risk area in such a way that all factors and conditions (soil types, precipitation patterns, frost-free days, hours of sunshine) are completely homogeneous within that risk area. Accordingly, special adjustment factors such as good experience premium discounts and coverage adjustments may be used for producers on soil types rated above average for that risk area. Conversely, premium surcharges and reduced coverage levels may be imposed on producers located on soil types rated below the risk area average productivity.

In a similar way, discounts and surcharges of various types may be used to differentiate between superior farm managers and those possessing lesser managerial skills.

Special adjustments can be used to advantage to correct certain basic anomalies and discrepancies in a crop insurance program providing certain guidelines and cautions are observed:

- There should be a symmetrical distribution of the results of the adjustment around the average for the factor under consideration, e.g., positive adjustments (premium discounts and increased coverage) for superior farm managers should be balanced by corresponding negative adjustments (premium surcharges and reduced coverage) for poor farm managers.

- Special adjustments should not be used to correct or compensate for changes that should be made in the basic structure of the crop insurance program, e.g., special coverage adjustments should not be used to correct for trend yield increases for the risk area as a whole when the better remedy would be to include the trend yield increase in the historical base yield data used for the calculation of the original risk area coverage levels and premium rates.

- Special adjustments should not be used to offset or correct short-term instability in the coverage levels caused by the use of a historical yield base that is too short; the basic remedy should be achieved by extending the length of the historical yield data base or using some other device to capture the trend yield increases.

- Any special adjustments should be consistent with the basic actuarial structure of the crop insurance program, e.g, any special adjustments in the coverage levels should be reflected in appropriate and corresponding changes in related premium rates; conversely, any special adjustments in premium rates should be systematically related to the corresponding coverage levels.

In general, perfection can never be fully achieved in terms of meeting all the prior requirements of an actuarially sound crop insurance program. Special adjustments are an indispensable part of an on-going program.

In initiating a crop insurance program, every effort should be made to ensure a clean launch by recognizing the basic principle governing the long-run actuarial soundness of the program and attempting, insofar as possible, to build the type of data base and operating procedures which are consistent with those principles . After the launch has been made, special adjustments of various types will be needed to make "mid-flight" corrections in the path being followed by the crop insurance program. The basic requirement is that the special adjustments can be consistent with the principles governing the long-run actuarial soundness of the program.

CHAPTER 3

SUMMARY OF ALBERTA CROP INSURANCE SURVEY

The firm of Angus Reid and Associates was commissioned by Alberta Agriculture to conduct a producer attitude survey. The primary purpose of the survey was to assess the views of producers throughout Alberta regarding crop and hail insurance.

The specific research objectives of the survey were as follows:

- To measure the level of need or demand for crop insurance, including an assessment of the variability of this need in different areas of the province.

- To determine the level of awareness and understanding of the existing crop insurance program, its operation and the options available.

- To assess the perceived strengths and weaknesses of the existing program as well as perceptions of the ability of the program to meet existing needs.

- To identify alternative approaches to the provision of crop insurance which could help overcome weaknesses or strengthen the program.

- To determine the level of premiums producers are willing to pay, as well as expected premiums for more comprehensive coverage.

3.1 Methodology

The survey was conducted by telephone and involved 2,405 producers selected at random from the six Alberta Agriculture regions.

Approximately 400 producers per region from each of the six regions were interviewed. The regions are referred to as southern (1), south central (2), north central (3), north-east (4), northwest (5) and Peace River (6). Fifty percent of the respondents carried crop insurance in 1985.

All telephone interviews were conducted from March 18 to April 18, 1986. The replies to the 51 questions have been analyzed for the province and by region showing regional similarities or differences.

3.2 Characteristics Of Respondents

Of the 2,405 producers surveyed, 10 percent were female and 90 percent were male. Eighteen percent of the producers were under 35 years of age, 50 percent from 35 to 54, and 32 percent were 55 years of age or over. There were no regional differences with respect to age.

Compared to older producers, there was some tendency for younger and middle-aged producers to have larger farms, higher gross sales, larger debt loads and higher off-farm incomes. Twenty-one percent of the producers had been farming for less than 10 years, 46 percent from 11 to 30 years and 33 percent for over 30 years. There were no regional differences in number of years of farming experience. Producers who have been farming for 11 to 30 years tend to have higher gross sales than those who have farmed over 30 years or less than 10 years.

Forty-four percent of the producers farmed 240 to 759 acres of land, 26 percent farmed 760 to 1,599 acres and 16 percent farmed more than 1,600 acres. Thirteen percent farmed less than 240 acres. Farms tend to be larger in the Brown and Dark Brown soil zones.

Forty percent of the producers sold less than $50,000 worth of product in 1985, 25 percent sold $50,000 to $99,000, 25 percent sold $100,000 to $199,000 and 10 percent sold $200,000 or more. There were major regional differences. The southern region has the most producers with sales over $200,000 (18%), followed by north central (14%), south central (10%), northwest (8%), northeast (6%) and Peace River (6%).

In respect to debt load, 20 percent of the producers indicated high debt, 29 percent - medium, 30 percent - low and 21 percent indicated no debt. There were no major regional differences. Seventy percent of producers from 15 to 34 years of age described their debt load as high or medium with only 7 percent with no debt. For producers over 55 years of age, 30 percent indicated their debt load as high or medium and 41 percent indicated no debt.

3.3 Level Of Need Or Demand For Crop Insurance

3.3.1 Producer concerns for 1986

Eighty-three percent of producers interviewed were concerned about having a crop loss in 1986, with 40 percent being somewhat concerned and 43 percent being very or extremely concerned. Concern was high throughout the province.

- On a provincial basis, prices for agricultural products were the predominant concern (34 percent of respondents). When "prices", "cost-price-squeeze" and "input-costs" are combined (all are interrelated), these financial concerns accounted for 60 percent of all responses.

- "Perils" or natural hazards were mentioned by 19 percent.

- There were differences between regions:

  * "Perils" were most frequently mentioned in the two southern regions, possibly reflecting the higher risk of hail and drought.

  * Financial concerns were of more significance to irrigation producers and those operating 1,600 acres or more.

- Level of concern about having a crop loss:

The producers' level of concern about the possibility of a crop loss depends on vulnerability. Vulnerability is related to any one of the following or a combination thereof:

- Risk area - the probability of loss is not the same for all locations.
- Diversity of income - producers who have livestock or off-farm income are less dependent on crop production.
- Financial Security - high, medium or no debt load, and no debt load plus money in the bank.
- Size of farm - the larger the farm, the greater the investment exposed to peril.

3.2.2 Estimated losses

Considering the average provincial yields for 1985 compared to long-term average yields of the various crops, estimated yield losses in 1985 were considerably higher, particularly outside the severe drought area of the province, than one would anticipate. Of those producers who reported losses, the losses ranged from 24 to 35 bushels per acre for barley, 16 to 22 bushels for wheat and 14 to 21 bushels per acre for canola. Surprisingly, there was little difference in reported yield loss by region. However, fewer producers reported losses in the northeast and northwest regions.

A large number of the producers interviewed reported losses, 64 percent for wheat, 59 percent for barley and 56 percent reported losses for canola[1]. In general, the majority of producers perceived their losses in crop production to have been very high in 1985.

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[1] The question may have been interpreted differently by different respondents. Perhaps some were thinking of spot-losses, others may have used their highest historical yields as a bench mark.

About two-thirds of all reported losses were attributed to drought, reaching a high of over 90 percent for the south-central region and for dry land in the southern region. Wet weather, frost, snow and hail were reported by a significant number of respondents as being causes of losses. A few reported losses from wind, wildlife, pests, heat and other reasons.

3.3.3 Producers interviewed who have or have had insurance

Of the producers interviewed, 55 percent had crop insurance for one or more years between 1981 and 1985. Fifty percent had crop insurance in 1985. Thirty-eight percent carried crop insurance over the five year period.

- Producers less likely to carry crop insurance were:

  * Older producers - 48 percent of producers over 55 years of age carried insurance compared to 55 percent under 35 years of age.
  * Smaller farms - only 20 percent of producers with under 240 acres carried insurance compared to 70 percent of those reporting over 1,600 acres.
  * Producers with lower debt load - 37 percent of producers reporting no debt carried insurance.
  * Producers with "off farm" sources of income - 42 percent with insurance.
  * Livestock producers - 31 percent with insurance.
  * producers with irrigated land - 45 percent with insurance.
  * Low crop loss experience - for those with no reported losses over the past 5 years, 17 percent carried insurance compared to 64 percent with 3 to 5 years of reported losses.
  * Producers who did not carry hail insurance - during the past 5 years only 11 percent of those without hail insurance carried crop insurance - compared to 80 percent of those who carried hail insurance.

  * Producers located in the northwest and northeast regions of the province - about 40 percent of producers interviewed in the northwest and northeast regions carried crop insurance compared to over 80 percent of dryland producers in southern Alberta. A similar pattern is also shown by soil zone, with 37 percent on Gray soils carrying insurance, 54 percent on Black soils, and 60 and 63 percent on Dark Brown and Brown soil zones respectively.

- Producers less likely to carry hail insurance included:

  * Older producers - 51 percent compared to those under 35 years of age 63 percent.
  * Smaller farms - 29 percent under 240 acres, 71 percent with over 1,600 acres.
  * "Off-farm" sources of income - 47 percent compared to 62 percent with only farming income.
  * Producers with no debt load - 42 percent carried hail insurance.
  * Livestock producers - 33 percent compared to 66 percent among grain producers.
  * Gray soil zones - 38 percent compared to 77 percent on Brown soils.
  * Nonirrigation producers - 72 percent of the producers with irrigation had hail insurance.

3.3.4 Main reasons producers do not carry crop insurance

- A prime objection appeared to be the cost of buying crop insurance (21%). Thirty-one percent felt they either did not need it or that they did not want to bother with it. Eighteen percent indicated that they could not get anything out of it or never had enough bad losses. The main regional difference in response was from southern Alberta, where 37 percent indicated they did not carry crop insurance because of irrigation. Cost and lack of need were the main reasons in other regions.

- Those who thought crop insurance to be too expensive, tended to be:

  * Younger producers - 29 percent compared to 18 percent for older producers.
  * Those with higher debt - 27 percent compared to 14 percent with no debt.

- Of those who indicated no need for crop insurance - 27 percent were located in the Brown soil zone, 24 percent in the Black soil zone, 20 percent in the Dark Brown soil zone and 15 percent in the Gray soil zone.

- Where no loss was experienced over the last 5 years, 25 percent indicated they did not need insurance compared to 15 percent of those who reported losses.

3.3.5 Reasons producers could not make a claim on losses

- About one-third of producers reporting losses would like to have claimed but could not. Fifty percent of these could not claim because their crop was not insured. Producers in the northwest, northeast, and Peace River regions were least likely to carry insurance.

- A substantial number of producers from south-central and north-central regions that carried insurance could not claim financial losses because their yields were too high. The need for higher coverage levels appeared greatest in these regions.

3.3.6 Intention to buy insurance in 1986

- Although over 70 percent of producers surveyed reported financial losses in 1985, only 54 percent intended to buy insurance in 1986, an increase of 8 percent over last year's level.

- Intention to buy insurance was lowest among:

  * producers with less than 240 acres (25%)
  * those who had no losses over the past 5 years (22%)
  * those with no hail insurance over the past 5 years (20%)
  * those with no claims over the last 5 years (24%), conversely 95 percent of those who had claims in 3 out of 5 years indicated they would buy crop insurance in 1986.
  * those with no insurance in the last 5 years (13% indicated they would buy insurance in 1986 compared with 97 percent of those who carried crop insurance from 1981 to 1985).

Of the producers who did not intend to buy crop insurance in 1986, 22 percent indicated they would be purchasing hail insurance. This was highest for southern producers (49%).

3.3.7 Summary of demand for crop insurance

Seventy two percent of the producers surveyed reported losses in 1985 compared to only 14 percent in 1981. However, only 54 percent indicated they would buy crop insurance in 1986[1].

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[1] Statistics from the AHCIC's annual report give the historical record of number of insured producers. In 1981 there were 18,638 producers who carried basic crop insurance. By 1986, this increased by 35 percent to 25,270 producers. The number of insured increased by 9.4 percent between 1983 and 1984, 6.8 percent between 1984 and 1985 and 6.6 percent between 1985 and 1986. These data suggest that a substantial number of producers did respond to the drought by purchasing crop insurance. In addition, over 4,850 livestock producers bought insurance under the livestock feed security program.

The fact still remains, however, that a large number of Alberta producers choose not to carry crop insurance, the most prevalent being those in the northwest, northeast and Peace River regions. As indicated in the above analysis, the reasons for this are complex and varied and include age of producer, size of farm, debt load, probability of crop loss, cost of insurance, level of coverage, probability of making a claim and off-farm income.

3.4 Awareness And Understanding Of Existing Crop Insurance Programs

This section presents information on the following: 1) awareness of ways to reduce concern about having a crop loss; 2) reported levels of knowledge of various crop and hail insurance subjects, 3) sources of information on crop or hail insurance and, 4) reported comprehensiveness of information received.

3.4.1. Ways to reduce concern about having a crop loss

Producers were asked to think of different things that they could do to help lessen their concern about a crop loss. Crop insurance was the item most frequently mentioned (54%). "Get hail Insurance" was mentioned by 2 percent, therefore in total 56 percent of respondents thought of insurance as a means of reducing concern over potential crop loss. Twenty-three percent of producers thought of various good farming practices or good farm management techniques and 10 percent thought of less physical techniques such as hope, prayer or positive thinking. Eighteen percent of producers said that nothing could be done to help lessen their concern about having a crop loss.

"Get crop insurance" was the most frequent response among all subgroups of respondents. The frequency of mention was highest among those who had three to five years of claims in the last five years (68%) and lowest among those in the northeast region (43%).

While producers reported many different means by which they could reduce their level of concern about having a crop loss, "getting crop insurance" was the number one alternative among all subgroups of producers.

3.4.2. Levels of knowledge of various crop and hail insurance subjects

The majority of producers felt uninformed on the following crop insurance subjects:

- Coverage for an allowance to dry grain.

- Features of the forage crop insurance program that are available in some areas of the province.

- Coverage adjustments for low grades.

- Coverage for an advance on snowed-under crops.

- Individual coverage option, which establishes coverage on the basis of individual yields rather than area-average yields.

- Effects that other producers in your risk area can have on coverage and premiums.

Producers with no crop or hail insurance over the last five years felt least informed on all subjects, while those with insurance for the last five years felt most informed on all subjects.

In summary, levels of knowledge appear to follow logical patterns whereby those most likely to carry insurance are those most likely to be informed on these subjects. Where the majority feel uninformed, levels of knowledge may need to be increased, especially with regard to, a) the forage insurance program, b) the individual coverage option and c) the effects that other producers in a risk area can have on coverage and premiums.

3.4.3 Sources of information on crop or hail insurance

Only four sources of information were of any significance, these being: district office staff of the AHCIC (64%), brochures or literature (63%), one's own experience (64%) and other producers (48%). All other sources were mentioned by 2 percent or less, e.g. farm newspapers and magazines 2 percent and radio and T.V. 1 percent. Only 13 percent of producers did not use any source of information on the subject. When asked which source was most helpful, the majority selected district office staff of the AHCIC.

From this analysis, district office staff are the most often used and the most helpful source of information among those currently buying insurance, but those not buying are much less likely to use district office staff, or for that matter, any source of information on crop insurance.

3.4.4 Comprehensiveness of information received

Seventy percent of producers consider the information on crop and hail insurance to be easy to understand, 25 percent felt it was somewhat confusing and only 2 percent felt it was very confusing.

3.5 Perceived Strengths And Weaknessess Of The Program

The survey assessed the following aspects:

3.5.1 Helpfulness of information provided by district staff

Generally the AHCIC scored very well in providing helpful information. There were, however, regional differences with the northern half of the province indicating less satisfaction than those in the south. As might be expected, those already in the program expressed very little need for more helpful information.

3.5.2 Adequacy of the amounts paid on claims

A small majority (51% vs 45%) thought claim payments were less than adequate. On a regional basis, the three northern regions were less satisfied, with approximately two-thirds of claimants stating that payments were less than adequate. One of the principal reasons for this perception was that producers felt they did not get their expenses back.

3.5.3 Satisfaction in processing claims

On a province-wide basis 92 percent of claimants rated the service they received as satisfactory or very satisfactory. One can conclude that service in processing claims is not a weakness of the program. Again there are regional differences, with the Peace River region recording the highest percent dissatisfaction, albeit at only 16 percent.

3.5.4 Reasons for buying crop insurance

Producers purchase insurance coverage to reduce risk of loss. Concerns leading to a perceived need for protection varied amongst producers, with a majority stating they wanted to cover their input costs. Of the numerous crop perils, hail was the most often mentioned concern for which they needed protection.

Basic all-risk insurance with the hail endorsement was the most popular policy across the province, with 61 percent of insured respondents buying this coverage. There were some regional differences in type of insurance bought. South-central producers opted heavily for the all-risk insurance with hail endorsement (80%), while about half in the three northern regions chose this type of coverage. Twenty-one percent of respondents across the province who bought insurance chose the hail only, and eleven percent bought basic all-risk only. The southern region showed more preference for straight hail insurance (33%) vs. the Peace region (18%), whereas Peace River producers more often chose the basic all-risk without hail endorsement (26%), while in the southern region only 5 percent bought this type of coverage.

The use of the individual coverage option was assessed. Provincially only 10 percent of respondents reported that they have bought this coverage[1]. Regionally there was little difference, with the three northern regions showing a slight preference for individual coverage (2 to 3% more).

3.5.5 Levels of concern about selected crop insurance issues

Producers were asked to express their level of concern about eleven different insurance issues. Producers showed a fairly high level of concern about most issues, but when asked to single out the issue of most concern the following four were highest:

- Unfair claiming practices on the part of other producers.

- Reduction in coverage because of two or more years of substantial claims.

- Inability to claim for partial or spot-losses on a crop.

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[1] According to AHCIC records only 2 percent of insured producers use individual coverage.

- The cost of premiums.

All regions ranked "Unfair claiming practices" as their number one concern except the northwest. Here cost of premiums was ranked the number one concern.

Producers in the Peace Region tended to have the highest overall levels of concerns, followed by those in southern, then northeast, south-central, northwest and lastly, north-central. Producers tended to express higher levels of concern if they were more vulnerable; i.e. younger producers, heavier debt load, farmed larger acreages, etc.

3.6 Suggested Approaches To Improve The Program

Five improvements were rated as absolutely or very necessary by the majority of producers:

- Eliminate opportunities for producers to take unfair advantage of the insurance program.

- Do not reduce coverage when you have had two or more years of substantial claims.

- Allow for claims on a spot or partial loss.

- Offer higher levels of coverage.

- Reduce the cost of premiums.

More producers indicated that cost of premiums was a concern (71%) than level of coverage (61%). However, slightly more producers indicated that it was more important to increase coverage (48%) than decrease premiums (45%). (Table 3.1 and 3.2).

Only minor differences between regions were noted, with the northern regions more often suggesting lower premium costs and improved advances on claims for unharvested crops.

A suggested method for reducing the number of unfair claims is to abolish the use of area average yields and insure on the basis of each producer's individual yields. There was strong support for a system based on individual yields as 65 percent of producers said they would prefer such a system. Support for this option was strong across the province as well as across all subgroups of producers.

A small majority of producers felt that coverage levels were high enough (51%). A substantial number (39%) however, felt they were not high enough, particularly those with irrigation or in the Peace region.

Almost half the producers surveyed felt it was absolutely necessary to get more producers into the program. Surprisingly, 38 percent of those without insurance felt it was very or absolutely necessary to get more producers to participate.

One method for getting more Alberta producers to participate in the program is for government to contribute a minimum coverage level to all producers, and, if additional coverage is desired above that level, then the producer would pay all the costs of obtaining that additional coverage. Producers were asked if they favored or opposed such a system. A small majority favored such a system (53%), but a substantial number (35%) were opposed while 12 percent had no opinion. There was little difference in the responses between regions. Livestock producers were most in favor of such an option (60%) and those with three to five years of claims in the last five years were least in favor (44%).

3.7 Level Of Premiums Willing To Pay

It was noted in Section 3.6 that the majority of producers were concerned about the cost of premiums but less than half felt it necessary that the level of premiums be reduced. It was more important to producers that coverage be increased or that spot-loss coverage be made available.

Insured producers were asked if they felt their premiums provided them with very good, good, fair or poor value for their dollar. Just over half felt the value was fair or poor. The majority in the southern regions felt the value was good or very good, but those in the northern regions felt it was fair or poor.

Those producers who felt they got good or very good value gave the following reasons why they felt that way: good returns, good coverage, good protection and reasonable premiums. As cost is fourth down the list, this suggests that the cost of premiums may not be a prime concern in influencing producer's perceptions of the value of their insurance. If they can get better coverage or more protection, they may well be willing to pay more for better protection.

Producers who felt the value of their premiums was fair or poor, gave the following reasons: poor level of coverage and high cost of premiums. Much of the perceived value of insurance can be related to whether or not the level of returns will be adequate should they experience a loss. As the level of returns depends largely on coverage levels, increasing coverage levels would probably do more to improve value perceptions than would reducing the cost of premiums.

When asked to compare the relative significance of the cost of all-risk crop insurance to other costs of production, two-thirds of the respondents felt these costs were very or somewhat significant. A detailed analysis of the responses shows that the more significance a group attached to cost of the premium, the more likely that group was to buy insurance. Furthermore, there was evidence that the cost of premiums may not have a negative influence on producer's perceptions of the value of their insurance. In fact, there may be a positive relationship between perceived value and costs, where the higher the costs of insurance, the greater the perceived value.

Producers were asked if they would be willing to pay a higher premium to help fund increased coverage levels. Most said they would be willing to pay more (59%). It seems somewhat curious that most producers would be willing to pay more to get more coverage even though earlier most said they were concerned about the cost of premiums[1]. It appears that the costs of insurance is a minor factor in relation to value and that getting more for their dollar seems to be a better alternative than spending fewer dollars and not getting what they need. In order to get the coverage level they need, most seem willing to pay a higher price to get it.

With regard to regional differences, those in the northeast and northwest were less willing to pay more. Note that these regions also tended to have lower levels of perceived value and had less significance attached to the cost of insurance. It is interesting to note that the primary concern of younger, less experienced producers was the cost of premiums, but that these groups were also among those most willing to pay more for added coverage. It appears that it is important to increase the perceived value of insurance and lowering costs is probably not the best way to do that. It is probably better to provide more coverage (either spot loss or higher levels or both) than it is to try and minimize or reduce costs.

Producers were asked for their preference as to who should fund higher coverage levels. Almost half preferred that both producers and government provide equal shares of the additional funds, with the second preference being that government provide most of the additional funds with only part of the increase passed on to producers. Less than ten percent of producers felt that the government should provide all the additional funds. Again, those less willing to pay were those with lower levels of perceived value.

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[1] Editor's note - While a majority of producers have indicated they would be willing to pay more, there is no indication as to how much more. This ambiguity may be a signal that there would be resistance to any increase other than a very modest one.

From these findings, it may be concluded that a majority of producers are more value-conscious than price-conscious when it comes to buying their insurance, and that their perception of value will depend largely on the coverage they can get from the program.

Table 3.1
Alberta Producers' Levels Of Concern About Selected Crop Insurance Issues
(N=2,405)

	Percent of Producers				
	Extremely or Very Concerned	Somewhat Concerned	Not at All Concerned	Not Stated	Most
Unfair claiming practices on the part of other producers	46	25	24	5	18
Reduction in coverage because of two or more years of substantial claims	42	26	26	5	11
Inability to claim for partial or spot-losses on a crop	41	27	28	4	10
The cost of premiums	39	32	25	4	12
Unfair claim adjustments	36	26	33	5	5
Claiming for losses in quality	32	33	31	5	4
The levels of coverage that are currently offered	30	31	34	5	8
Obtaining advances on crops that could not be harvested	28	29	38	5	3
Slow processing of claims	23	27	44	7	3
The difference in coverage and premiums for crops grown on summerfallow and crops grown on stubble	22	25	47	6	4
The types of crops that are insurable in your area	16	23	58	4	2
			None of Concern*		19
			Don't know		2
					100

Source: Alberta Crop Insurance Survey, Final report, Angus Reid Associates Inc., July 1986.

*"None of Concern" if not extremely or very concerned about any of the above issues.

Table 3.2
Necessity Of Selected Improvements To
Alberta's Crop Insurance Program
(N=2,405)

	Percent of Producers		
	Absolutely or very Necessary	Somewhat or Not at all Necessary	Don't Know
Eliminate opportunities to take unfair advantage of the insurance program	68	27	5
Do not reduce coverage when you have had two or more years of substantial claims	55	40	5
Allow for claims on a spot or partial loss	52	44	4
Offer higher levels of coverage	48	46	6
Reduce the costs of premiums	45	50	5
Get more Alberta producers to participate in the program	45	50	5
Improve advances on claims for unharvested crops	42	51	7
Allow claims for a loss in quality or grade, even when there is no loss in yields	40	56	4
Process claims more quickly	39	55	6
Equalize coverage on crops grown on summerfallow and crops grown on stubble	30	65	5
Offer insurance on crops that are presently not insurable	27	63	11

Source: Ibid

CHAPTER 4

ISSUES ARISING FROM THE PUBLIC HEARINGS

The Crop Insurance Review Panel held eight days of formal hearings at which some 78 briefs were presented. These briefs were then analysed with a view to identifying all of the distinguishable issues relating to crop insurance that concern producers and the organizations representing them.

Beginning in mid-October, 38 informal hearings were held throughout the province. Again, all presentations were analysed to identify issues concerning crop insurance.

The method employed in analysing the briefs was as follows: Firstly, each separate and distinguishable issue was given a computer code. The issue was then briefly described in narrative form, coded and entered into a computer. This was done every time an issue was identified in the briefs.

When all the briefs had been analysed and entered into the computer, the second step was to retrieve, by separate issue, the information in the computer. Thus, the analyst had, in one printout, all of the comments relating to one specific issue. This was repeated for each and every issue. The final step was to then consolidate all of these comments concerning each issue into a brief statement that succinctly represented all of the different views while, at the same time, avoiding as much as possible any undue repetition or duplication. Some 40 or more issues were identified and these are reported herein.

Since all briefs presented at the formal hearings were analysed before the informal hearings started, most issues are reported under the heading "Formal Hearings". In analysing and reporting the briefs presented at the informal hearings, it was decided that repetition should be avoided. For that reason, entries under the subheading "Informal Hearings" report only those concerns that are new or of a different nature. Consequently, this subsection is much shorter but the reader is cautioned not to assume that fewer issues were presented at the informal hearings.

4.1 Coverage Levels

4.1.1 Formal hearings

Coverage levels were by far the greatest single concern expressed by presentations to the panel. In the formal hearings 60 of the briefs presented made reference to coverage levels one or more times for a total of 113 mentions. Coverage levels are a function of yield and price. Hence, coverage levels are reduced with declining grain prices. The prevailing low grain prices will be reflected in lower coverage for 1987. It will, therefore, become more difficult to protect input costs with crop insurance. It is this situation that has generated much of the concern with respect to coverage levels.

Many of the concerns with coverage levels were mentioned in conjunction with other topics. In this section, however, we highlight those issues which focus on coverage levels alone. Other comments regarding coverage are addressed under the issues to which they related.

- Cost of production

For the most part, producers expressed the need to acquire crop insurance at higher coverage levels to cover cost of production. There were some differences of opinion as to whether insurance should cover variable costs (cash) only or variable plus fixed costs. In either case, the proponents of tying coverage to cost of production were in effect advocating a shift from production coverage to dollar or income coverage.

- The deductible clause

Some presentations suggested that one way to achieve higher coverage at nominal cost to the producer would be to implement a deductible clause. The coverage level would be changed so the producer would assume the first 10 percent of any loss, the corporation the next 70 percent and the producer the remaining 20 percent. Some felt that this approach would entice producers to produce higher yields and to salvage all of the crop possible. Others felt such a program might be implemented within the framework of current legislation and be in place for the 1987 crop year.

Because the real impact of such a program on indemnity levels is not known, it was proposed by some briefs that research should be conducted to more accurately assess the total ramifications of such a program.

- Loss of coverage

Concern was expressed that coverage levels built up by virtue of good experience can rapidly be lost if a claim is made. In particular, producers feel that if the loss was clearly due to factors beyond their control, there should be no penalty reduction in coverage level. They point to hail damage as an example of loss that is not penalized and claim the same should apply to other perils. For the most part, producers want coverage levels maintained at a constant level while premiums fluctuate in response to loss history. (See section 4.12 "Good/Bad experience adjustment.")

4.1.2 Informal hearings

Coverage level for irrigation is considered far too low. One presenter maintains that drought can hurt the irrigation producer and that input costs are as much as six times greater than that of the dryland producer. Coverage levels for irrigation should be independent of dryland.

- Many submissions want coverage to be higher and related to input costs. Several indicated a dollar coverage per acre was important.

- Moving average calculations should make some adjustment for technological advancements.

- Explore possibility of a 50 percent coverage with low premium to cover serious crop failure.

4.2 Abuse

4.2.1 Formal hearings

There is widespread belief that the crop insurance program is abused. These alleged abuses run the range from simple opportunism to deliberate, planned exploitation of the system. Producer estimates of the extent of abuse run as high as 10 percent of all policy holders. Only one or two presentations expressed the view that the extent of abuse was more illusory than real and perhaps based on rumour and conjecture. In the following paragraphs we set out the "how", the "effects" and the "proposed solutions" to abuse as given in the presentations.

- How the system is seen to be abused

Generally abuse is seen to fall into three broad categories:

* Deliberate fraud. This includes hiding grain, false reporting or otherwise deceiving the AHCIC.

* Manipulation of the system or cheating. Some producers are believed to crop land unsuitable for cultivation knowing an insurance payout will be triggered, or they use poor farming practices such as low seeding rate or no fertilizer to ensure qualifying for a claim. Another reported way of manipulating the system is through family members who participate in closely related or identical operations buying separate contracts, claims can then be rotated so as not to effect premiums or coverage levels.

* Opportunism. The producer may not have planned to abuse the system but finds that he now has a crop that may fall into a claim situation. He or she then avoids further input costs so as to maximize the claim, e.g., failing to spray for grasshoppers, failing to harvest a salvagable crop, etc.

- The effect of abuse

Whether or not abuse is as widespread as some assume, the net effect is that the program receives bad publicity. There appears to be a fairly common perception that the good producer is paying for the abuses of the poor producer and consequently many of the better producers refuse to participate.

- Suggested ways to counter abuse

Numerous proposals were put forth to counter the alleged abuse of the program. The most common proposal was to shift to individual coverage for all participants. In addition, a reduction from a 10-year to a 5-year moving average would severely penalize abusers. Other, but less frequently mentioned proposals were:

* A "crime stoppers" type of program with a 0-800 hot line to the AHCIC.

* Stricter field inspections in conjunction with monitoring of actual input costs.

* Pre-harvest checks on a random basis and inspection of all storage bins.

* The AHCIC should appeal claims that were adjusted too high and recoup some excess indemnity.

* Field staff must be trained to distinguish between crop losses caused by natural perils and poor management.

* Utilize criteria such as weather data to determine claim eligibility.

* Insurance should not be available on marginal land, only on A, B, C and D soils.

* Restrict the number of years that a producer can collect insurance.

* If abuse can be proven, withhold insurance privilege for 5 years.

* Enforce guidelines within the existing legislation and refuse claims due to poor management.

* Penalties for fraud or deliberate misrepresentation should be severe enough to discourage the insured from abusing the system.

* Individuals with continuous claims should be subjected to significantly increased premiums unless just cause can be demonstrated.

* A bonus for early seeding (in some areas) for spring wheat and argentine canola may reduce abuse.

* The program should contain a bad experience premium increase of up to 25 percent.

- Caution

One writer warns that overly restrictive policies can work to the detriment of legitimate policy holders.

4.2.2 Informal hearings

Abuse and/or misuse of the program is a widespread concern whether apparent or real. Many feel that the logical way to overcome abuse is to implement universal individual coverage as soon as is practical. Pre-harvest inspections and stricter enforcement of regulations were also cited as means to counter the problem.

- Adjusters should collaborate with local weed inspectors to reduce fraudulent claims.

4.3 New Concepts

4.3.1 Formal hearings

Basing coverage levels on cost of production is a departure from the original concept of crop insurance in that it shifts from production coverage to a predetermined dollar coverage. This would be moving in the direction of insuring for income security which is philosophically different from crop insurance. Tying coverage to cost of production has been reported in more detail under 4.1 "Coverage levels".

Other conceptual changes proposed include:

- It was suggested that producers in high-risk low-yield areas would be better served by allowing them more choice in the amount of coverage that they can purchase with whatever premiums are necessary to support that coverage.

- The Alberta Cattle Commission invited discussion on a "disaster" provision for crop and feed insurance programs to be implemented whenever a large scale disaster (outside the normal range of risk) is deemed to have occurred. The provision would allow government to inject additional funding into the program (not the payouts) to offset the costs associated with a major disaster in order to sustain the level of coverage and to hold down future premium rates. They consider this to be a less disruptive way for governments to provide assistance during emergency conditions.

- A "Cash Flow Insurance Plan" was submitted to the panel as a new concept eliminating the need for all other programs. The program would pay an advance in two parts, September and January, to a total of $150 per acre. The producer would repay the $150 and keep any surplus. If the producer's receipts from crop were less than $150, he would repay only the amount of his crop receipts. Insurance premiums would be set at 10 percent, i.e., $15 per acre.

- An income stability program was outlined which, in brief, would ensure total costs of production. The only variable would be inputs of fertilizer and chemicals at cost. A payout would be triggered only if value of production fell below the insured level, in which case the shortfall would be made up by the insurance plan.

- A further variation of income insurance is the concept of producers paying in a certain percentage of their receipts in good years to an "insurance savings plan". These contributions would be matched by the federal government until a predetermined maximum level is reached. producers could draw on this fund in times of need but only up to the total amount in the individual fund. (It would be similar to RRSP in that contributions would be tax free but withdrawals would be taxed as income.)

- A somewhat similar program to the preceding one was proposed which would be achieved through amalgamation of the crop insurance plan with the WGSP. Again, withdrawals would be tied to area yields to determine need and limited to the total amount in the producer's individual account. This comprehensive package would replace all other programs including *ad hoc* disaster programs.

- A board of inquiry should be struck to analyze the impact of crop insurance becoming a combined price and production guarantee.
- It was proposed that a disaster fund be established to replace *ad hoc* programs. This would be separate from crop insurance and would operate on a no-fault basis. Payouts would be made only when a natural disaster has severly depressed crop yields over a large area. Participation would be voluntary and premiums set to make the program actuarially sound. Criteria for triggering the fund should be stringent enough to ensure its integrity.

4.3.2 Informal hearings

Similar concepts were expressed at informal hearings as were presented at the formal hearings. The most frequent view being that coverage be high enough to cover input costs. This request implies a move from production insurance to income insurance.

A "Mortgage Interest Insurance Plan" was proposed as an added option to crop insurance for which a separate premium would be paid. (Would pay the interest on the mortgage in years of crop losses.)

4.4 Policy Issues

4.4.1 Formal hearings

Many of the recommendations made by producers would require the assent of the board of directors or the governments who jointly sponsor the program. Some of these changes in policy, if approved, could be made effective for the upcoming crop year. Others, however, would require extensive consideration to assess their impact prior to implementation.

Many of the producers' recommendations are outlined under the heading to which they most closely relate e.g., Coverage Levels. This section will list only those recommendations relating to policy which are not mentioned elsewhere.

- Crop insurance must be kept voluntary.

- Crop insurance must not be so lucrative as to discourage intensive management of the farm.

- When a producer goes into receivership, claim payouts should not go to the receiver.

- The program should be adjusted, if possible, to accommodate the requirements of the more northerly parts of the province.

- There should be an incentive to get beginning producers into the program.

- Section 42 (q) of The Crop Insurance Act, which provides for an independent arbitration process to be set up by the Lieutenant Governor-in-Council, should be implemented.

- When the Minister declares a disaster program, producers should collect even though they have no crop insurance, but they then be required to join for a period of three consecutive years.

- Producers should be able to assign or use crop insurance as collateral.

- Discontinue the use of The Thresher's Lien Act. (Authority by which collections are made from deliveries of grain to elevators.)

- Producers who purchase crop insurance should be required to do so for a minimum period (e.g. 10 years).

- More representation on the board from irrigation producers.

- Board members should be producers and elected by producers.

4.4.2 Informal hearings

- Landlord should be able to buy insurance coverage if the tenant does not.

- Concerned that there is no representative from eastern Alberta on the AHCIC board of directors.

- One presentation proposed regional committees be established to provide local input on program needs.

- AHCIC should pay interest on delayed payouts, e.g., after 60 days from initiation of claims.

4.5 Administrative Issues

4.5.1 Formal hearings

Included in this section are all proposals and concerns of an administrative nature that fall within the jurisdiction of management. The majority of proposals or concerns fall into two broad categories; information and abuse.

- The need for more information.

  * A toll-free telephone access to the AHCIC head office would improve communications.

  * Compile a concise manual to explain crop insurance in detail to producers and non-producers. May reduce some of the false perceptions regarding abuse of the program.

  * The producers' right to appeal adjustments should be printed on the application form and receive more publicity.

  * Concern was expressed about inaccessibility of information on the calculation model (forage).

  * A more vigorous marketing of the program is needed - cannot depend on the program selling itself.

- The need to substantially increase inspections, primarily to reduce abuse.

  * More prompt inspection in case of crop damage to permit a producer to proceed with operations.

  * Adjusters should be more knowledgeable about insurance-related matters.

* Increase inspections particularly where yield results indicate a potential fraudulent practice may be occurring.

- Other concerns of an administrative nature include:

* Crop insurance offices are too far apart - use private agents or set up more offices.

* Elevator companies should qualify for the two percent commission for collecting premiums only if the premiums are overdue. Producers paying premiums on time should get a two percent reduction.

* Adjustments to claims are best conducted prior to harvest in regard to sunflower claims.

* Wildlife damage claims should be paid within 90 days of notification of damage.

* There is a need to set deadlines by which payouts should be made. Producers need timely cash flow.

4.5.2. Informal hearings

Concerns expressed at the informal hearings reflect those of the formal hearings, such as the need for more information in the hands of producers before electing to insure. Again, the practice of paying a commission to elevator agents for collecting premiums came under some criticism.

- The individual coverage option needs to be explained more fully to producers if use is expected to increase.

4.6 Premiums

4.6.1 Formal hearings

Producers are cognizant of the need to increase revenue to the program if higher coverage levels are to be available. At the same time, because producers are operating on an extremely narrow profit margin, they are also very sensitive to any increase in their overall costs which, if they insure, includes crop insurance premiums. Following are comments about premiums as gleaned from the formal briefs:

- Producers who obtain higher yields should be able to buy higher coverage at higher premiums.

- The proportion of coverage to premium is greater at 60 percent level than at the 70 percent level. The same ratio should apply at the higher levels.

- The option for coverage and premium should be changed so that in bad years a producer can pay a higher premium and keep the coverage level high and during good years pay a decreased premium.

- The only way coverage levels can be increased is if premium rates are increased, or if program abuse is reduced.

- Hail damage (claims) increase premiums rapidly, yet absence of hail does not elicit an equally rapid decline in rates.

- Premiums have reached a point where those who need insurance most cannot afford to insure all their acreage. Premiums for wheat are particularly unrealistic.

- Emergency funding should be available to cover abnormal circumstances and maintain actuarial soundness without increasing premiums.

- The premium for silage is too high, it is a crop of low risk.

- Study the possibility of reducing premiums by making the averaging area smaller.

- Crop insurance is not utilized extensively in Risk area 4 because premiums are high relative to risk.

- Premiums should be kept below 6 percent in order to attract more participation.

- Producers who use poor management should be penalized by higher premiums.

- Pressure from the federal government to increase premium costs to producers should be resisted.

- Premiums should be standardized throughout the province.

4.6.2 Informal hearings

- One presentation proposed that a basic premium be set low enough that all or almost all producers would take insurance. Additional options would be available for which the producer would pay extra premiums.

- Must set premiums on basis of long-term experience, i.e., do not lower premiums after a run of good years because then you will have to raise them in bad years when producers can least afford the increase.

- Keep premiums from individual coverage in separate fund so as not to contribute to the abusers.

4.7 Affiliation With WGS And CA Programs

4.7.1 Formal hearings

Very few of the briefs presented saw any merit in combining crop insurance with WGSP and CA programs. Those who did appeared to have done so in the expectation that one combined program could be administered more efficiently than two separate programs. Some stated the proposition merited study, while one agreed with consolidation "... if it guaranteed a floor price for grain based on production costs ...."

On the other hand, an overhelming majority were adamant that crop insurance be kept separate. Statements such as the following left little doubt as to their views:

"It is imperative that the WGSP and AHCIC remain separate and nonaligned with one another in any way, shape or form."

"... the goals of both WGSP and crop insurance are much better met if the programs remain separate and distinct."

"The crop insurance program, regardless of modifications, should remain separate from the WGSP.

The reasons given by presenters for opposing linking of the programs were unanimous: they see the goals of the programs as being distinctly different. For example: "Crop insurance guards against financial disaster from natural perils whereas WGSP and CA address the problems in the market." Or, as one brief succinctly put it: "... income stabilization vs. crop production."

4.7.2 Informal hearings

A different reason for wanting the WGSP kept separate from crop insurance was presented: "Ranchers in southern Alberta want to continue trading with the U.S. and any amalgamation of programs may be viewed as a subsidy by U.S. producers and restrict trade arrangements."

More than twice as many presenters opposed integration of insurance and WGSP as favored combining the two. Some producers, wanting coverage based on a guaranteed dollar per acre, felt combining the crop insurance program with the WGSP may be a workable alternative.

4.8 AHCIC Performance

4.8.1 Formal hearings

This section deals primarily with the adjustment of claims and the handling of payouts to eligible participants. Generally, the AHCIC was credited with having been timely and fair in making adjustments and that payouts were handled in an expeditious manner. Nonetheless, some changes were proposed and these are listed below:

- The temporary provision that allows for cutting of crops for feed (or grazing) using test strips to establish eligibility for feed for payments should be made a permanent option in the program.

- Insurance adjusters need to be more aware of the crop insurance act and its interpretation, and more knowledgeable about the insurance program.

- Producers must be made more aware of their rights when crops are adjusted, by verbal communication and by concise written form.

- The current allowable yield limits for a 100 percent loss designation are too low and should be raised and reflect regional differences.

- Claims should be adjusted on merits of damage only, not on a producer's character. The portion of the Hail Claim Adjustment form dealing with "attitude" should be removed.

- The actual local market value at the time of adjustment of the crop harvested, less the cost of harvesting, should be used to establish the value of the crop harvested.

- A consistent fair measure of yield, such as a random square metre sample and kernels per head, could be used to assist adjusters in determining preharvest yields.

- To overcome inconsistencies and inequities, adjusters need to be experienced, competent and handle only one area individually.

- Adjusters should use bushel weights when measuring bins.

- Under the present policy, if there is a crop loss, the feed value is considered in calculating payouts. It is recommended that this not be included in calculating payouts and that payouts be made directly after a crop loss, especially if there has been crop loss caused by hail.

- For any readjustments, the assessors should not see the previous assessor's report. The chief assessor should not be doing the readjustment if he has seen the report.

- Insurance adjusters should let producers sow crops in the spring as a priority over harvesting snowed-under crops.

- Pre-harvest and post-harvest inspections should be considered in adjusting a claim. Neither inspection should necessarily preclude the other.

4.8.2 Informal hearings

Concerns expressed were similar to those brought forward at the formal hearings, viz.,

- the impracticality of harvesting a crop worth less than the cost of harvesting.
- Payouts too slow.
- Adjusters ill-informed and too slow.
- Confusion concerning rules of the Livestock Feed Security Program.

One brief proposed that yields should be adjusted upward if the grade achieved was better than the standard. This is significant to those producers on individual coverage who want to maintain a high coverage level.

4.9 Livestock Feed Security Program

4.9.1. Formal hearings

Two issues stand out as being of major concern as indicated by the number of briefs that referred to them. Many feel that this program should be available throughout the province. An equal number want to see coverage include excess moisture, which can destroy a crop or lower quality in the swath. Other concerns relating to the Feed Security program are:

- Forage producers should be able to attain "good experience" credits and the same hail endorsement available to grain and oilseeds producers.

- Incentives should be built into the program to encourage producers to participate on an on-going basis.

- The forage program should be extended to cover the entire province.

- Any clover crop should be insurable since it is essential for soil conservation.

- This program is subsidized and the existence of a subsidy affects management. Thus, the program seems unnecessarily rich to some stock growers.

- The program does not cover pastures which are the feed supply for half the year.

- The guidelines for the program indicate that yield data will be assessed on the quarter township, but when talking to AHCIC personnel, they say the yield will be done according to representative hay fields. This program should be measured on an individual's yield, not on an area-average yield.

- One of the big risks of seeding a forage crop is the year of establishment. The AHCIC should undertake a study into ways that the year of establishment in forage crops could be eligible for some type of insurance coverage.

- There is disagreement with having to insure all hay acreage. The producers should be able to elect specific acreages. A minimum may be necessary, e.g., 50 acres.

- Maximum coverage should be increased in some areas. Even a poor crop of 1 ton/acre would be worth $50, making insuring not worth while.

4.9.2 Informal hearings

Producers want to include quality as well as yield in their forage coverage. The change in rules in mid-season caused considerable confusion. The forage program must recognize individual disparities in quantity and quality resulting from different types of forages etc., inputs, soil management and local weather patterns. For example, basing quality measurements on protein content may be deceiving since different mixes of grasses are inherently different in protein content. Present criteria for assessing and adjusting production levels have not been accurate in the view of some producers.

Older hay fields should have reduced coverage.

4.10 Government/Producer Cost Sharing

4.10.1 Formal hearings

The majority of presenters wanted more contribution from governments with a view to increasing coverage with little or no added cost to the producer.

- Straight hail insurance should receive the same government subsidy that all-risk insurance does.

- The Government of Alberta should increase participation in the program thereby making premiums more affordable to producers and increasing overall participation.

- The provincial government should increase funding contributions to increase coverage to $150 per acre with an increase in premiums to producers. Additional coverage above that level would be paid by the producers alone.

- The federal and provincial governments should increase contributions on a 50/50 basis to increase coverage while maintaining producer premiums at current levels.

- Moneys spent on programs to subsidize or bail out other sectors could be better used to provide a more sound crop insurance program.

- Premium costs should be shared by the federal government, provincial government and the producer on a 50:25:25 cost-sharing arrangement.

- The provincial and federal governments and the producer should contribute the same amount in order to raise coverage levels. Under this tripartite agreement, administration costs would be shared equally by the two governments and the producer.

- The provincial and federal governments and the producers should each pay one-third of the cost of the premiums. The provincial share should be used to increase coverage, not decrease premiums.

- Governments should get out of crop insurance completely, or failing that, make the producer pay 75 percent of premium and all cost overruns.

- One brief did not favor a change to increased government funding and felt that the present funding formula is adequate.

4.10.2 Informal hearings

Comments varied from satisfaction with the present level of subsidy to increased subsidy by means of a tripartite arrangement. The additional contribution being used for additional coverage was favored by a substantial majority.

4.11 Individual Coverage

4.11.1 Formal hearings

For the most part, briefs in which individual coverage is mentioned suggest this format would counteract abuses within the system and/or increase the coverage available to many producers.

- Abuse reduced by individual coverage.

Many briefs suggest a program, based solely on individual coverage, could reduce abuse since each producer's annual yields would determine their coverage. Producers would become more efficient in all aspects of production and may even avoid making minor claims. Coverage levels would more accurately reflect management decisions used on individual farm operations. Abusers would not participate, or at least would receive much reduced coverage. It was hypothesized that premiums may actually decline under an individual coverage format, because of reduced abuse.

- Individual coverage reflects actual yield potential.

Producers feel a program based on individual coverage would allow better producers to attain coverage more in line with their actual yield potential. Some feel this increased coverage would reflect input costs while others suggest higher coverage levels (e.g. 80 and 90 percent of average yield) must also be available if input costs are to be insured.

- Should individual coverage remain optional?

Many presentations recommend a move toward crop insurance based entirely on individual coverage. A smaller proportion suggest both the area average and individual coverage options should be available. Two presentations suggest the current program favors producers on the area-average coverage rather than individual coverage. For example, quality grade adjustments affect coverage for producers insured under the individual coverage option but do not affect the moving averages used for the area-average coverage option.

Others question why more producers are not on individual coverage when it is an available option. One presentation was opposed to individual coverage arguing that increased premiums would prevent many marginal producers from buying crop insurance.

- Specialty crops

Specialty crop producers, currently insured on an individual basis, expressed satisfaction with the system and recommend it for all commodities.

4.11.2 Informal hearings

The informal hearings confirm the findings of the formal hearings, namely, that a vast majority of producers see individual coverage as a solution to many of the problems in crop insurance. This despite the fact that very few are now using this option. Some briefs suggest that the principle reason for low usage is the difficulty in establishing an historical record on which to base individual coverage. Another reason given was the 30 percent bonus attainable through good experience which can provide a coverage level in excess of that possible under individual coverage. One producer wondered if an individual coverage option would discourage diversification in cropping since it takes some time to develop an average yield history on a new crop.

One presenter thought individual coverage would be too complicated and top heavy with red tape.

4.12 'Good/Bad Experience' Adjustment

4.12.1 Formal hearings

Most comments regarding the 'good experience' adjustment schedule indicate dissatisfaction. Producers argue that credits decline at a greater rate when losses occur than they accrue in loss-free years. Consequently, several years of 'good experience' can be negated by just two years of substantial loss. Many of the presentations argued that widespread production disasters caused by natural perils should not affect the 'good experience' in any way. These disasters are not the fault of the producer and should not adversely affect coverage or premiums.

- Beginning producers

There was some concern for beginning producers. Since coverage levels do not accurately reflect input costs or actual production potential, beginning producers, lacking good experience benefits, cannot gain adequate crop protection. This lack of coverage discourages participation and leaves beginning producers susceptible to risk.

- Good experience by crop

A few presentations recommended that 'good experience' credits be calculated for each crop insured.

- Hail vs other perils

Northern producers argue that hail damage occurring to producers carrying the hail endorsement, does not affect 'good experience'. Damages from frost and excess moisture, which are more prevalant in the north affect the 'good experience' schedule even though these perils may occur in 'spot-oss' situations much like hail. Northern producers consider this to be an inequity of the present crop insurance program.

4.12.2 Informal hearings

A major concern with experience adjustments is that benefits accrue more slowly than penalties. Some have proposed that penalties should be in the form of higher premiums only, so that adequate coverage can be maintained. Wide spread natural disasters should be covered under a separate insurance or at least treated as an anomaly with special considerations to maintain existing coverage levels.

4.13 Crop Insurance Program Deadlines

4.13.1 Formal Hearings

- Election deadlines

Producers in the Peace River region feel the present election deadlines favor southern areas, Seeding is earlier in the south and producers are able to assess field conditions, foresee production potential and determine whether to buy crop insurance or not.

Producers should be allowed to elect crops on the last eligible seeding date to reduce trips to the crop insurance office.

- Seeding deadlines

Briefs presented by Peace River groups suggest present seeding deadlines may exacerbate the potential for crop losses in their areas. Many crops seeded close to the current deadlines have little chance of maturing. Several presentations suggest seeding deadlines in the north should approximate June 1 for spring wheat and argentine canola, and June 20 for barley and polish canola.

- Premium deadlines

Regardless of the region represented, presentations favor a later deadline for premium payments and levying interest charges accruing on late payments. Arguments stress the need for producers to gain some remuneration from the sale of crops prior to making premium payments. Proposed deadlines ranged from September 30 to December 1. Premium discounts could be offered to entice producers to pay earlier. Interest should not be charged on premiums if a payout is authorized before the due date.

- Summerfallow designation deadline

The deadline to acquire a summerfallow designation for the next crop year on land on which crops are ploughed under in the current year, received considerable debate. It was emphasized in many briefs that the current program discriminates against alfalfa in favor of clover. Producers believe the plough-down of alfalfa is of equal benefit to soil productivity and should be treated similarly to clovers. Briefs addressing this concern suggest a later deadline for plough-down to receive the summerfallow rating. A later date would allow producers the opportunity to harvest the first cutting of hay while ploughing under the subsequent growth.

- Conflicts with current deadlines

Two administrative issues were mentioned which conflict with current program deadlines.

- Northern producers, on occasion, may receive the premium rate schedule manuals for the upcoming year immediately prior to or after the election deadlines. Planning crop insurance purchases and meeting election deadlines is difficult when rates and coverage levels are not available. If the current deadline is maintained, the AHCIC should be aware of this logistical problem.

- Acquiring a summerfallow designation for ploughed under crops may prove difficult if the date used for assessment is the adjustment day rather than the day on which damages occurred. Producers may have to wait for an adjustment past the deadline for summerfallow, particularly if damages occur close to the cutoff date.

4.13.2 Informal hearings

Many of the same concerns were expressed at the informal hearings regarding deadlines as were heard at the formal hearings.

A new concept recommends charging progressively higher premiums on later seeded crops to reflect the added risk.

4.14 Spot Loss Provision

4.14.1 Formal hearings

Spot-loss coverage was mentioned in 24 of the 60 formal briefs presented to the review panel. In all instances, producers state coverage should be available on a spot-loss basis. The main complaint with the current program involves the averaging of all yields of a particular crop over the entire farm. Losses of a minor nature relative to overall yield, although significant on a field basis, would not qualify for a payment under the existing program. Larger producers are especially frustrated since fields in one part of the operation could be totally devastated, and yet not initiate a payment owing to high yields in another area.

- Spot-loss by field

When specified, presenters believed the quarter section or field level would be most appropriate as a basis to develop a spot-loss provision. They also suggested that regional managers should have the authority to declare spot-losses under the all-risk plan.

- Regional views

A significant portion of the briefs addressing 'spot-loss' were primarily concerned with receiving spot or field coverage for the major perils within the region. Presenters representing southern Alberta suggest endorsements should be available for insect damages much like that currently offered for hail. Producers in the northern parts of the province argue for similar provisions to guarantee production against frost, flooding and excess moisture damage.

- Costs

None of the presentations provide any indication of what extra costs in premiums or administration may occur from initiating a comprehensive 'spot-loss' production guarantee.

- Abuse

Only one brief identified difficulties in developing an efficient 'spot loss' program, citing concerns with potential abuse and logistics in adjusting claims.

4.14.2 Informal hearings

As was indicated at the formal hearings, many producers want spot-coverage because they would have a better chance of receiving a claim payout. Arguments for "spot-loss" coverage are generally fuelled by the existence of "spot-coverage" for hail under the hail endorsement package.

4.15 Ad Hoc Emergency Programs

4.15.1 Formal hearings

Reference to ad hoc emergency programs were made in 19 of the briefs presented at the formal public hearings. Producers recognize the role of the crop insurance program as a method of reducing risk associated with low production. Widespread disasters or abnormal losses caused by natural perils present special problems within the program.

Many presentations stressed the desire for an effective crop insurance program which would eliminate the need for ad hoc emergency programs. One presentation suggested ad hoc programs seldom reach the people they are intended to assist. There is some concern that the expectation of disaster relief may reduce participation in a "self-help" crop insurance program. Four presentations considered the existence of disaster assistance detrimental to the crop insurance program and injurious to the mental attitude of the farming community.

- Suggested changes to the existing program

* Increasing available coverage levels at reasonable premiums to circumvent the need for a disaster program.
* Leaving the existing program intact with provision for additional government funding during widespread disaster to maintain coverage and limit future increases in premium rates.
* Develop an emergency assistance program option separate from crop insurance. Producers could choose either crop insurance coverage or disaster assistance prior to the seeding of crops. Each program would have to be actuarially sound.
* Amalgamating the WGSP, Crop Insurance and CA programs which might preclude the need for future disaster assistance.

The main concern for the ability of the crop insurance program to totally eliminate the need for disaster payments is the low levels of coverage relative to input costs.

4.15.2 Informal hearings

Views brought to the informal hearings were similar to that of the formal hearings.

4.16 Summerfallow vs Stubble/Continuous Cropping

4.16.1. Formal hearings

Presentations addressing summerfallow and/or stubble management practices focused on either coverage level differentials or deadlines to obtain a summerfallow designation for ploughed-under crops (section 4.13). Since the AHCIC considers crops grown on summerfallow more productive than those grown on stubble, producers may be encouraged to summerfallow in order to achieve higher insurance coverage.

- Fallow/stubble differences

The AHCIC, depending on risk area, currently assesses the yield potential of stubble seeded crops at 65 to 85 percent of that for summerfallow. Producers from the central and northern areas of the province consider actual yield differentials between summerfallow and stubble to be minor or nonexistent. Producers in the southern part of the province suggest coverage based on average yields should exhibit differences between summerfallow and stubble seeded crops.

- Continuous cropping

In addition to yield potential, many producers agree that soil conservation benefits are achieved through continuous cropping practices. Current differentials in coverage may discourage producers from pursuing good management strategies for soil conservation.

4.16.2 Informal hearings

Producer views about fallow/stubble differentials vary according to region. Producers in south eastern Alberta agree with existing differentials while those from areas of more abundant rainfall would eliminate them entirely. Producers claim the differentials are not resource neutral as crop insurance had ought to be.

4.17 Types Of Crops Insurable

4.17.1 Formal hearings

As markets become available for new crops and as producers gain the technology and experience to grow them, there will be a demand to bring these crops under the risk protection umbrella of crop insurance. Some of the new crops are listed below:

- The Pulse Growers Association requests separate programs for irrigated and dryland lentil and pea production.

- Vegetable growers want coverage for red beets included in the program.

- Insurance coverage should be made available for more categories of barley and winter wheat varieties.

- Five crops are covered under the existing fresh vegetable insurance plan. Two more crops, red beets and peas, should be included and market gardeners who do not sell through the marketing board should be allowed to obtain insurance on their crops.

- The Potato Commission recommends separate coverage for irrigation and dryland. Also separate coverage by variety and end use, e.g., fresh table stock, chipping and french fry, seed stocks and early and late varieties.

- Include new crops such as safflower under the insurance program.

4.17.2 Informal hearings

The list of insurable crops should be expanded to include the following:

- forage seed
- Triticale
- Pedigree seed above certified level.
- Lentils

4.18 Perils Insurable

4.18.1 Formal hearings

There was a considerable body of opinion that current coverage is inadequate. Coverage levels were deemed low (see section 4.1 "Coverage levels"), but also many presenters felt that certain specific perils were not insurable under the present program. These are outlined below:

- Crop insurance should be available on individual perils with premiums and coverage levels based on each peril and the past experience of the individual.

- Spot-loss should be available on perils other than hail.

- Potato growers have risks in storage that are the result of field conditions.

- Forage coverage should include perils such as flooding, excessive moisture damage, grasshoppers, etc.

- A frost and drought rider option should be available so that these perils would not affect an individual's coverage and/or could act in the same manner as the current hail rider.

- Spot-flood loss coverage should be initiated in flood plain areas as defined by the Department of the Environment.

- With spot-loss coverage the producer should have the choice to insure all or none or his alluvial soils and at a rate that is actuarially sound. The Pembina flood plain could be used as a pilot project for flood insurance.

4.18.2 Informal hearings

- Irrigation producers want three perils covered: insects, disease and weather.

- Sprouting grain in the swath should be covered.

- Weeds should be considered a natural peril in some instances.

4.19 Risk Areas

4.19.1 Formal hearings

Most of the references to risk areas related to the overriding concern about coverage levels and the belief that somehow ill-defined risk areas were responsible for low yield averages and, hence, low coverage. Their comments follow:

- Areas to establish yields for coverage should be reduced to blocks of half-townships.

- Boards should study regional variations in risk problems and adjust coverages accordingly.

- The Peace River area should be subdivided into two or more risk areas.

- Present risk areas should be re-examined with a view to making them more homogeneous in respect to level of risk.

- Risk area # 12 has climatic variations that make it necessary to review the boundaries as they now exist.

4.19.2 Informal hearings

The response at informal hearings generally expressed dissatisfaction with risk areas because they were not homogeneous. It was suggested that if areas were smaller the problem might be resolved and also that risk areas should not necessarily include a whole county or municipality.

4.20 Hail Rider

4.20.1 Formal hearings

The hail endorsement option appears to be quite popular. Reasons for this include: the level of coverage, the spot-loss provision, claims do not offset good experience adjustments and subsidization of premiums.

It was evident that a lot of the all-risk coverage purchased in Alberta was bought simply to acquire the hail rider. Producers consider this the most economical way to buy protection against the risk of hail.

A number of presenters felt that the hail rider option was a good model and that other perils such as frost, drought, etc. should be covered in the same way. Some were of the opinion that the hail rider is unfairly subsidized vis-a-vis other perils.

4.20.1 Informal hearings

Comments offered at the informal hearings were consistent with those heard at the formal hearings.

4.21 Farm Management

4.21.1 Formal hearings

Some typical comments are:

- The current structure of the program is not neutral and tends to promote inefficiency in production.
- The crop insurance program must encourage improved farm practices which enhance soil conservation, e.g., eliminate the differential between fallow and stubble coverage.
- Including a bonus for early seeding in conjunction with advancing seeding dates for spring wheat and argentine canola may improve management and reduce abuse.
- The program should increase coverage and lower premiums to encourage soil conservation practices.

[All-risk crop insurance is intended to be a tool by which producers can better manage their production risks. It was never intended to be a tool to influence the producer's farm management techniques. Ideally the insurance program should be as resource neutral as is possible and, if not, at least it should not influence farm management in a negative way.]

4.21.2 Informal hearings

Similar concerns as were expressed at the formal hearings were again expressed at the informal hearings.

4.22 Wildlife Depredation

4.22.1 Formal hearings

Reference to wildlife damage to agricultural crops is mentioned in 4 of the 60 formal briefs presented. Two briefs, one from Alberta Fish and Wildlife Division, and one from the Bow Island irrigation district, focused on wildlife depredation issues exclusively.

In short, both producers and Fish and Wildlife personnel consider the compensation paid for wildlife damages inadequate relative to input costs, particularly in regard to irrigated crops. Since all segments of society benefit from the existence of wildlife, the maintenance of wildlife habitat and wildlife populations is important. The cost of maintaining wildlife should be borne equitably by all segments of society. Farm producers however, contribute greater amounts towards wildlife maintenance in the form of land utilized as habitat, and in crops lost to wildlife depredation.

Much of the habitat suitable for the public wildlife resource is situated on private lands. In recent years, economic conditions have increased pressure on producers to maximize output by efficiently utilizing all lands within the farm unit. As a result, much of the productive habitat has been transformed through drainage and land clearing projects for agricultural production.

Adequate compensation for wildlife damages to crops is an integral component in offsetting the cost to producers of maintaining wildlife populations for future generations. Compensation becomes even more important when the development of new habitat areas is required.

Producers suggest additional funds be made available to compensate for wildlife damages. Time lags between initiating a claim and receiving compensation should also be reduced. Alberta Fish and Wildlife personnel also argue for increased compensation for wildlife damages to be administered through the existing crop insurance program.

- Three scenarios were presented in order of preference:

* Compensation at 100 percent of gross market value for all crop losses caused by wildlife.

* Compensation at 100 percent net market value of the actual losses. (Net market value = market value minus cost of harvest, storage and transportation to market.)

* Compensation at some predetermined percentage (80-90 percent) of net market value of damaged crops.

In the view of Fish and Wildlife officials, losses caused by wildlife must be calculated on a spot-loss basis and continue to be offered under the all-risk program with no premium costs to producers.

4.22.2 Informal hearings

A problem raised at the informal hearings was that blackbird damage should be compensated to the producer. It currently is not included. Another concern was that the hunter does considerable damage driving over swaths and for this there is no compensation. There is a need for more prompt adjustment to avoid continuing damage to swaths by waterfowl and weather.

4.23 Soil Classification

4.23.1 Formal hearings

Under the current program, coverage levels are assessed, among other factors, according to soil classes. A reduction in yield coverage of 10 percent is assessed on successively lower classes of soil.

For the most part, presentations addressing this issue suggest the current coverage levels assessed by soil class designations are inappropriate. Producers argue the lower quality soils can, with proper management and input levels, produce yields equal to crops grown on higher quality soils. Recommendations range from a complete elimination of soil classes to rating no soil less than 'C' class.

One of several comments regarding soil classes suggested the soil classification system should be redone to more closely reflect classifications under the Canada Land Inventory system. Another comment suggested crop insurance should not be available for crops grown on land classed as 'E' or 'F'. The presenter indicated that crops grown on marginal land are likely to fail and initiate a claim. He suggested such areas should be reseeded to forage crops or pasture, rather than to grains or oilseed crops.

4.23.2 Informal hearings

No significant additions to the formal hearings.

4.24 Snowed Under Crops

4.24.1 Formal hearings

Comments under this heading reflect the cash-flow problem that producers face when a crop remains unharvested.

- The current nonrepayable cash advance on snowed-under crops should be increased to 50 percent of the coverage level and the 20 percent deductible clause should be eliminated.

- A 50 percent to 75 percent advance on snowed-under crops should be made prior to January 1st.

- The current advance payment for unharvested crops is not high enough to pay the interest on operating loans.

4.24.2 Informal hearings

Crops unharvested after November 30th should be written off. The producer can then salvage them in any way possible. However, land not worked in the fall because of unharvested crops should not be eligible for insurance the following year.

4.25 Quality Adjustments

4.25.1 Formal hearings

Under the current program, when adjusting a claim, crop yield is adjusted for grade. Crops with a lower quality than the established grade are factored down in yield. Quality adjustment not only increases the amount of payment when there is a claim, but may trigger a payment by adjusting actual yields downward. Producers' main concern with the quality adjustment involves the apparent inequality between producers on individual coverage versus those on area coverage.

Under the individual coverage option, a producer's moving average is directly affected by quality adjustment since it is the adjusted yield rather than actual yield that is used. Coverage levels for producers on basic coverage are not appreciably affected by quality adjustment since this coverage is based on the area average yield. It was recommended that actual yields and not quality adjusted yield be used in establishing coverage levels for individual coverage.

One presentation suggests the weight of grain should be taken into account in quality adjustments, particularly in regards to oat production.

4.25.2 Informal hearings

- If soft white wheat has over 32 percent sprouted grain, it is not saleable even as feed. Therefore, it should be written off as a total loss - not worth the cost of harvesting.
- Livestock Feed Security Program should include coverage for deterioration of quality in swathed hay.
- The quality adjustment factor is not well understood by producers generally.
- Producers on individual coverage want yield factored upward if the quality realized is better than the standard, e.g., malting barley.

4.26 Farm Contracts

4.26.1 Formal hearings

Most of the comments addressing the issue of farm unit contracts refer to the manner in which crops are insured. Currently, the all-risk program is designed to provide a production guarantee for each crop on the entire seeded acreage. Claims are adjusted on the basis of average yield for each crop under contract. Producers with both irrigation and dryland feel this is unfair and want separate contracts for irrigated and dryland crops. A producer may obtain separate contracts on land that is separated by at least 15 miles. Most operations, however, do not exceed the 15 mile designation, and production is insured under one contract.

Producers argue that good yields on one portion of the operation can outweigh losses of the same crop in another area. The producer may incur a substantial loss, yet a claim may not be initiated unless total production falls below the guaranteed level. They would like to obtain separate contracts on smaller parcels of land than the entire farm unit.

A few briefs representing producers from southern Alberta suggest reducing the 'farm unit' designation to a 5-to 10-mile radius. Most presentations addressing this issue, however, state contracts should be available for field coverage. Coverage on a field basis would likely increase the number of claims and subsequently the cost of premiums. Producers indicated a willingness to pay additional premiums, however, an acceptable range of increase was not specified.

- Not all briefs supported the concept of reduced farm unit size or field coverage:

* Producers should only be entitled to one contract regardless of the farm size.

* Write contracts by legal land description rather than by farm operator.

* The landlord should be allowed to buy a separate contract but without government subsidy.

* When a producer elects to participate in crop insurance, he should be required to insure all crops.

4.26.2 Informal hearings

Farm contracts were not a major issue at the informal hearings. Comments concerning the 15 mile limit on farm units were related to the desire for spot- or field-coverage, see 4.14.

4.27 Farm Size Discounts

4.27.1 Formal hearings

Comments on farm-size discounts were split between those opposing the discounts altogether and those in favor of extending their influence. The following comments were made:

- Larger operators are not necessarily better producers. The small producer is subsidizing the larger.

- Risks of crop damage from certain perils are reduced as farm size increases. Consequently, larger producers should receive additional premium discounts.

- Incremental discounts to premiums should continue to a limit of 2,000 acres or more.

- Spot-loss coverage should be provided for those producers who insure a predetermined number of acres of a specific crop.

- There should be more flexibility in calculating acreages insured to derive the farm-size discounts for premiums. The presenter cited inaccuracy in measuring devices as the prime concern. It was proposed that a 5 percent error be allowed for each additional 100 acres to a maximum of 30 acres.

4.27.2 Informal hearings

As was the case with the formal hearings, producers are split on the matter of allowing discounts to larger farms.

4.28 Irrigation vs. Dryland

4.28.1 Formal hearings

Comments relating to irrigation and/or dryland focused on requests for separate coverage contracts. Producers maintain the yields on irrigation overshadow any losses on dryland and negate the initiation of claims.

Producers using irrigation argue input costs are substantially higher than on dryland. The increased coverage for irrigated acres relative to dryland does not, however, reflect the input costs. Consequently, producers using irrigation request increased coverage levels.

Other comments regarding the irrigation vs. dryland issue are:

- Although differences do exist between irrigation and dryland, separate contracts may be difficult to administer and adjust in certain situations. Certain crops which can be easily identified, could have separate contracts.

- Different types of irrigation equipment are available and various management styles are employed. Consequently, risk may reflect various combinations of these factors. Alberta Agriculture should conduct research to assess the varying degrees of risk and recommend changes to premiums and coverage levels.

4.28.2 Informal hearings

The main theme on this issue is that separate contracts should be available on irrigation and dryland.

4.29 Average Yield Calculations

4.29.1 Formal hearings

A few briefs addressed the manner in which the annual area average yield is calculated. Currently, yields for each crop by risk area are averaged over the previous ten years and used to calculate coverage in bushels per acre for the current crop year.

Two presentations suggest a five-year moving average may better reflect the recent production increases owing to technological progress. One presenter argues a five-year moving average may reduce claims caused by poor management and/or abuse of the present system.

A presentation by a group of producers in the Peace River area suggests participation in the program is negatively affected by the influence of widespread disasters on the moving average calculation. This point appears in opposition to support for a five-year moving average. Extreme annual yield fluctuations increase the effect on the average as the series data time span shortens.

One presentation cautions administrators to closely examine the impact of emergency programs on the area-average yield calculations utilized by the AHCIC. The brief suggests many bushels of grain were written off as total losses under a 1985 feed program to assist livestock producers. These zero production averages could greatly affect the moving average used in subsequent years.

4.29.2 Informal hearings

Several producers expressed a need to have separate coverage on irrigated and dryland.

4.30 Straight Hail Insurance

4.30.1 Formal hearings

Producers confess some confusion regarding the way in which hail damage is assessed. One presentation suggests a manual detailing the methods to adjust hail claims may be useful.

One farm organization suggested straight hail insurance should be marketed solely through the AHCIC office to reduce administrative costs and subsequently premiums. Other comments regarding hail insurance include the following:

- Straight hail insurance should receive equal government subsidies as all-risk crop insurance.

- Producers should be able to insure to a maximum of $125 per acre coverage under straight hail insurance.

- Producers with 100 percent hail damage should not be forced to plough the crop down to collect insurance.

- Hail insurance should be made available to vegetable growers not selling through a marketing board. Governments and producers should share premiums equally.

4.30.1 Informal hearings

Presenters were of the view that adjusters need more training so as to be more consistent and accurate. Producers in the North Central regions suggest hail is their primary peril and would be satisfied to purchase straight hail coverage alone if premiums were subsidized as in the all-risk program.

4.31 Special Provisions

4.31.1 Formal hearings

During the formal hearings, producer groups and individuals suggested special provisions which are not currently within the context of the crop insurance program. The provisions are intended to address specific areas of concern and include:

- The incorporation of special incentives to encourage producers to engage in soil conservation practices to benefit future generations.

- Incentives to encourage producers who are above the area average but not enough to warrant individual coverage, to utilize all technological inputs and management skills available.

- The unseeded acreage payment should be increased to $30 per acre for summerfallow acreage. Payments should be made on at least 80 percent of the fallow not seeded.

- A pilot project should be initiated to encourage reclamation of soils damaged through salinity problems. Premiums could be assessed at the 60 percent coverage level with coverage at 80 percent of the area average to encourage producer participation.

4.31.2 Informal hearings

The pedigree seed program is a great improvement, but dockage should be assessed as per seed cleaning practices rather than commercial rates, as is now the policy.

Crop acreage unharvested in spring is not eligible for unseeded bonus and this was considered unfair.

4.32 Price Options

4.32.1 Formal hearings

Concerns with the available price options are closely tied to those expressed with coverage levels. Many producers argue that crop insurance should be structured to cover input costs. (See section 4.1 "Coverage levels".) What constitutes input costs is not clearly defined. At current levels of coverage and price options, many producers feel the crop insurance program does not provide adequate coverage. Similarly, there is no guarantee that 100 percent coverage at actual market prices will cover input costs.

The following suggestions were made:

- Price options should be increased to ensure cash costs are covered.

- The price options should offset production declines to maintain a stable dollar coverage per acre.

- Price options should follow market prices more closely.

4.32.2 Informal hearings

No specific recommendations came out of the informal hearings.

4.33 Reseeding Benefits

4.33.1 Formal hearings

Few concerns were raised regarding the current reseeding benefit allowance. A special allowance for winter wheat has been withdrawn for the 1986-87 crop years. Reseeding benefits for winter wheat will be the same as all other crops - $12 per acre. Some producers in southern Alberta are annoyed with the recent change to reseeding benefits for winter wheat.

For the most part, producers are happy with the present reseeding benefit, however, they would like more input into the decisions of what crops should be reseeded. According to current regulations, producers are expected to reseed a crop initially elected for insurance. With the loss of growing days, producers feel some situations warrant the planting of an earlier maturing crop even though that crop was not elected earlier for insurance. In other instances, producers may have a better idea of whether a crop should be planted at all.

4.33.2 Informal hearings

No reseeding benefit paid on blocks of less than ten acres. Some producers feel a spot-loss provision should apply and payments made on claims of less than ten acres.

Others felt that $12 per acre is not high enough while one suggested it be eliminated entirely (producers should bear some risk on his own).

- Currently, the reseeding benefit is deducted from the premium owed by the producer. It should be paid to the producer when needed, (i.e. when reseeding) or an invoice sent to the producer to show the amount of credit he/she will receive when paying premiums.

4.34 Vegetables, Sugar Beets, Potatoes And Other Special Crops

4.34.1 Formal hearings

The concerns of the growers of these specialty crops often differ from those of the grain growers because the production of these crops involves intensive management, high input costs, and are invariably grown under irrigation. Many of these growers are on the individual coverage, for instance, growers of vegetables for processing have no other options. This may account, in part, for their general satisfaction with the program. Nevertheless, there were a few problems which they felt should be addressed by the review panel:

- Sugar beet growers suggest that calculations to determine an individual grower's yield in tonnage should focus on harvested areas only rather than including seeded areas not harvested. It is of greater importance to maintain high coverage levels over the long-term than to have a high payout in any one year.

- Beekeepers should be able to purchase insurance based on their individual input costs rather than market price. Coverage for beekeepers could be structured using a formula: coverage = (individual average - deductible) x cost of production index, where the deductible amount is predetermined either provincially or by region and where coverage is in dollars per hive. Premiums could be based on experience and value of coverage. This approach shelters the producer from rapid fluctuations in input costs and market price.

- Production risks for malt or select barley are higher than for feed barley; it is a crop that requires more management and produces less. It was requested that consideration be given to special coverage for malt barley.

- Some specialty crops are high risk in certain areas. It is believed that some growers plant these on the assumption that they will trigger an insurance payout. The suggestion was made that the producer should be required to first obtain an approval from the AHCIC as to insurability of the crop.

4.34.2 Informal hearings

- Beekeepers are concerned that losses due to insecticide are not covered.

- Producers with less than 200 hives should be eligible to insure their hives.

- One beekeeper suggested the corporation get out of insuring honey production on the assumption that insurance encourages over stocking of a specific area.

4.35 High Risk Subsidy

4.35.1 Formal hearings

The high-risk subsidy, which is paid by the province, is intended to modify the cost of premiums in those areas where production risks are higher. Generally, this has favored northern Alberta, however, one presentation stated that an analysis of AHCIC loss-to-premium ratios shows that a higher loss-to-premium ratio exists in the south compared with the north of the province. These findings suggest a regional assessment of premiums relative to losses is relevant by region.

Other comments were:

- Areas designated as high-risk should be identified and scrutinized to determine what causes, if any, exist.

- Producers identified as high-risk should require repeated inspections in order to remain in the program.

4.35.2 Informal hearings

The high-risk subsidy appears to favor marginal soils and encourages questionable farming practices.

4.36 Grain Drying Allowance

4.36.1 Formal hearings

The grain drying provision was not a contentious issue as is indicated by the paucity of comments relating to it.

- Some type of discount or credit should be available to producers who utilize grain drying equipment.

- Because of the variability of moisture test probes in a bin, people who dry their grain are at a disadvantage when yields are calculated from bin measurements. In addition, for pedigreed seed there should be some provision for readjustment if the germination is lower in the spring than it was in the fall.

4.36.2 Informal hearings

No submissions.

4.37 Area Boundaries

4.37.1 Formal hearings

The concerns about boundaries have been reported elsewhere. For example, the desire to have the feed security program extended to the entire province is reported in section 4.9 "Livestock Feed Security Program.

Another concern relates to the designation of a farm unit as being any parcel of land within a 15 mile radius. This was cited as being too great a distance (see section 4.27 "Farm unit contracts").

4.37.2 Informal hearings

A review of boundaries limiting the area in which specialty crops may be insured was requested, e.g., durum in Flagstaff county.

4.38 Privatization

4.38.1 Formal hearings

Only two briefs made any reference to the privatization of the crop insurance program. The first was by an individual producer who advocated that both the federal and the provincial governments get out of crop insurance entirely. The second was a brief from the Canadian Crop Hail Corporation which argued for more involvement of the private sector in providing crop insurance to producers. Their request can be summarized as follows:

- A complete removal of the hail endorsement from the Canada-Alberta Crop Insurance Program.

- Failing the above, request that the private sector be allowed to market the hail endorsement option. It would be available to clients who submitted proof of coverage under basic crop insurance.

- That the private sector be allowed to market, service and participate in the risk of the Federal-Provincial Crop Insurance Program in much the same manner as the U.S. private sector participates in the U.S. federal program.

4.38.2 Informal hearings

- Presentations favored the involvement of the private sector citing;

  * More vigorous marketing.
  * Personal contact would provide better information.
  * More offices throughout the province.
  * Private adjusters would be less lenient.
  * Reduced administration costs
  * Increase service to customer through competition

4.39 Feedback On Hearings

4.39.1 Formal hearings

Most of those presenting briefs expressed their appreciation of the opportunity to appear before the review panel and present their views on crop insurance. However, there were some negative comments as well and these all referred to the unfortunate timing of the hearings which conflicted with harvest operations. Some other comments worth noting are:

- Producers generally prefer the option of insurance rather than handouts.
- The County of Lethbridge would have liked to have seen more representation on the panel from the "Palliser Triangle" area.
- The program in Alberta is well run and equitable.

4.39.2 Informal hearings

There were numerous expressions of appreciation for the opportunity to meet with the review panel. Others indicated that the timing of the hearings conflicted with harvest operations.

CHAPTER 5

CROP INSURANCE COMPARISONS BETWEEN ALBERTA, SOME CANADIAN PROVINCES AND THE U.S.

There are a lot of similarities amongst the programs offered in Canada and the U.S. All of the programs are made possible through federal legislation. All are subsidized by the federal government, although at slightly varying rates. In the U.S. the federal government pays 30 percent of premiums, whereas in Canada wherever the provinces do not share in the premium costs the federal government pays 50 percent of premiums. The U.S. federal government assumes all administrative costs. In Canada these costs are paid by the provinces, where the provinces do not share in premium costs. Major differences are outlined in the following sections.

5.1 Coverage Levels And Price Option

Table 5.1 provides a comparison of coverage available in the five jurisdictions.

Table 5.1

1985 Crop Insurance Coverage Levels And Price Options

Province	Coverage level Options	Number of Price Options	Average $ Coverage/ $ Farmer Premium
Alberta	60 or 70%	2	$15.89
Saskatchewan	60 or 70%	2	19.95[1]
Northern B.C.	60, 70 or 80%	3	11.54
Manitoba	70%	3	24.61
U.S.A.	50, 65 or 75%	3	N/A

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[1] Saskatchewan: hail insurance (spot loss) is included in the basic premium.

Source: Crop Insurance in Northern Alberta, prepared by Deloitte, Haskins and Sells for Northern Alberta Development Council, June 1986, p. 23.

Manitoba offers only one coverage level (70%) whereas three are offered in the U.S. and northern B.C. Saskatchewan and Alberta both offer two. The amount of coverage that one dollar of premium will buy is also shown in Table 5.1 , as calculated by dividing total farmers' premium in dollars by total coverage in dollars. Insurance coverage is most expensive in northern B.C. The high cost of insurance in the Peace River region of Alberta is offset by the provincial high-risk subsidy.

Coverage levels in the U.S. are being gradually changed to an individual yield coverage format. This Actual Production History (APH) approach employs a ten year moving average to calculate coverage. The program has been phased in gradually to allow producers sufficient time to gather at least three years of accurate production records. The average annual yields from each individual producer are merged with existing area average yields to produce the ten year average calculation to be used for the current year. Furthermore, the highest and lowest year yields are deleted to produce an overall eight year average. As the producer collects more individual annual records, they are incorporated into the average while progressively deleting area averages from the calculation. Eventually, the entire 10 years of data are from the individual producer's yield records. This process is similar to the individual coverage option available in Alberta, except the high and low years' yields are not deleted in Alberta. The APH approach in the United States is not an alternative program but rather designed to be the only method of calculating coverage.

5.2 Special Provisions

The various options available through the five programs are similarly comprehensive, with the Alberta program offering the most options. Table 5.2 provides a comparison of several features available through crop insurance programs.

Table 5.2

Comparison Of Provincial Crop Insurance Programs

	Alta.	Sask.	B.C.	Man.	U.S.A.
Individual coverage option	x	x	x	*	x[1]
Livestock feed security	x	x		x	
Coverage adjustment (good experience discount)	x	x	x	x	x
Pedigreed seed	x	x	x		x[2]
Unseeded acreage coverage	x	x	x	x	x[3]
Reseeding benefit	x	x	x	x	
Unharvested acreage	x	x	x	x	
High risk subsidy	x				
Hail-spot loss	x	x[4]	x	x	
Premium discount for farm size	x				
Irrigation coverage	x	x			x

Source: Ibid.

* Potatoes and sugar beets only. Will apply to honey and vegetables also in 1987.

[1] Compulsory

[2] Hybrid seed

[3] Prevented planting

[4] Hail insurance (spot loss) is not an option in Saskatchewan but is included as part of basic coverage.

Seeding deadlines vary somewhat between provinces, but these differences are probably in keeping with the climatic and geographic differences that prevail.

5.3 Participation Levels

Table 5.3 indicates that a smaller proportion of farmers participated in Alberta.

Table 5.3

Participation Levels - 1985

	Percent Farmers Insured	Percent Acreage Insured
Northern B.C.	55 est.	40 est.
Alberta	41	60 - 65
Saskatchewan	71	72
Manitoba	51	55
U.S.A.	47	18

Source: Ibid

However, the percentage of farmers participating is probably not as good a comparison as is the percentage of eligible acreage insured. In terms of acreage insured, Alberta, with 60 percent of crop acreage covered, compared favorably with the other two prairie provinces. It does suggest, however, that insurance coverage is deemed more desirable by the operators of larger farms in Alberta. One reason for this may be the fact that the Alberta program is the only one to offer a premium discount for larger farms.

5.4 The Private Sector

The most obvious difference between the Canadian programs and that of the U.S. is the involvement of private sector firms. In the United States there are two major groups involved in selling federal all-risk crop insurance, commissioned agents and private firms reinsured by Federal Crop Insurance Corporation (FCIC).

Master Marketers are small to medium sized firms who sell all-risk crop insurance for the FCIC while assuming no risk and exchanging their services for a set commission fee. Master Marketing firms must be licensed by the state(s) in which they operate and maintain a minimum of 25 sales personnel.

Reinsured private firms are state licensed companies with a background in the insurance business. These firms sell policies similar to Master Marketers, offering the producer the same premium rates for selected coverage levels. Reinsured private firms differ from Master Marketers in assuming a portion of the risk involved and, consequently, share in any gains when payouts are less than premiums collected.

Various provisions exist within the United States program to make all-risk crop insurance, sold by private firms, available in all states to all farmers. The combination of the various provisions, 'stop-loss insurance', and 'distribution of underwriting gains' ensures that the maximum losses to each private firm do not exceed a predetermined portion of premiums collected. The same package also ensures no private firm's share of the gains is greater than a predetermined percentage of premiums collected.

In Alberta, private firm participation is limited to the selling of straight hail insurance. Currently, eight private firms are licensed in Alberta to sell hail insurance to farmers. All-risk crop insurance and the hail endorsement portion of crop insurance are sold solely by the AHCIC through regional offices. The federal subsidization of premiums and the high risk subsidy offered by the provincial government apply only to all-risk crop insurance and the hail endorsement. Premiums for straight hail policies sold by either the AHCIC or private sector firms are not subsidized.

One further distinction between the two programs is evident. The United States program has no explicit provision for spot-loss damage. However, the broad definition of a 'farm unit', on which contracts are based, provides an implicit spot-loss provision. A spot-loss provision for hail is included in the Alberta Crop Insurance Program.

5.5 U.S. Disaster Programs

The major disaster program in the U.S. is not agriculture oriented, although agriculture may benefit. The state sets up a disaster fund, matched by the federal government, which is directed towards emergencies caused by such things as flood, hurricane or fire, e.g., brush fires in California.

For agriculture, the state may declare a disaster on a county basis. If several counties are involved, the federal government may agree to share in the costs of such things as low interest loans and feed freight assistance. The price of low quality crops may be subsidized.

When there is a widespread drought, for crop insurance purposes, a downward limit is placed on the moving average yield which cannot be reduced by more than 7 percent in any one year. This is a special provision applied only to 1985/86 and 1986/87 crop years. It is not presently in legislation but is being considered as a possible permanent provision.

5.6 Some Differences Between Alberta, Manitoba And Saskatchewan Programs

As indicated, the programs are fundamentally similar though there are certain differences, some of which have been alluded to in previous sections. Further elaboration may be of interest.

- Some crops are covered in Alberta that are not covered in Manitoba or Saskatchewan and vice versa. Crops covered in Manitoba or Saskatchewan and not covered in Alberta are: triticale, lentils, faba beans, canary seed, sweet-clover, buckwheat, soybeans, pedigreed timothy seed and corn silage.

- Alberta uses 14 risk areas and 6 soil types; Saskatchewan 23 and 14, and Manitoba 15 and 10, respectively.

- To establish moving average yields, Alberta uses 10 years, while Saskatchewan and Manitoba use 15 years, except for wheat, where Manitoba uses 25 years adjusted for changes in technology.

- Manitoba no longer separates fallow and stubble however, they have very little Brown soil that is characterized by low precipitation.

- Saskatchewan does not offer straight hail insurance. Spot loss for hail is built into the basic program and the premium adjusted accordingly. Spot-loss hail coverage is not an option in Saskatchewan.

- There are differences in coverage adjustment. Good experience is recognized as follows:

  * Alberta: Coverage level is adjusted upward by five percent per year for each loss-free year to a maximum of 30 percent. Premiums are also reduced by loss-free years to a maximum of 25 percent over seven years.
  * Saskatchewan: Coverage is adjusted for each loss-free year to a maximum of 25 percent over eight years. Premiums are reduced up to 50 percent over 10 loss-free years.
  * Manitoba: Coverage adjustment is based on a fixed number of bushels per acre rather than a percentage of coverage level. Maximum adjustment is phased in over six to ten years depending on the loss-to-premium ratio.

- Downward adjustment for bad experience is as follows:

  * Alberta: Downward adjustment of coverage level is based on

the number of loss years out of three years and the loss-to-premium ratio. For example, three loss years and a loss-to-premium ratio of 6:1 would reduce coverage to 40 percent below basic. Premium discounts are lost with bad experience.

- * Saskatchewan: Downward adjustment of coverage levels is based on three loss years out of six consecutive crop years and the loss-to-premium ratio.
- * Manitoba: Downward adjustment of coverage is on a fixed number of bushels per acre based on loss years and the loss-to-premium ratio. Premium discounts are lost and a premium surcharge of 25 percent is applied to those with successive claims.

- Neither Saskatchewan nor Manitoba has a discount for size of farm.

- With respect to contracts, in Alberta the contract is generally made with the farm operator. In Manitoba, contracts are available to farm operators and landlords.

- Individual coverage is available as an option in both Alberta and Saskatchewan. In Manitoba individual coverage applies to only a few special crops.

5.7 Canada-Ontario Crop Insurance Program

Although fundamentally similar, the Ontario program differs in detail from the Canada-Alberta program.

All contracts are based on individual yield coverage and premiums are established on a provincial basis, i.e. there is only one risk area, which is the province. Soil class and fallow-stubble differentials are not used. Coverage level is based on the five year average of an individual's yields phasing to 10 years. Where an individual does not have historical yield data, an assessment is made and an initial yield is assigned. This assigned yield is replaced with actual yields year by year as the farmer participates in the Crop Insurance program.

Coverage starts at 70 percent of the five year average yield and with good experience can increase to 80 percent over the next four years. Coverage is reduced with bad experience but can never go below 65 percent of the individual's average yield. One year after reaching 80 percent coverage and when the loss to premium ratio is less than 1:1, a producer is eligible for a 20 percent premium discount.

Spring seeded cereals are insured as one crop. This is under review. There is no hail rider, nor does the corporation sell straight hail insurance.

Their forage drought plan is similar to Alberta's livestock feed security program, however, Ontario also has a hay establishment insurance program. This protects against the hazards of establishing new seeding for $40 per acre coverage. The farmer's share of premium is $2.80 per acre.

Ontario uses commission agents to market the program and service the producers. They have seven regional offices which work with agents to serve the farmer. Agents are also responsible for measuring individual yields. They are paid on a commission basis. On average, agents can measure yields of 6 to 8 crops per day. There are approximately 18,000 contracts and approximately 31,000 crops. Ninety agents, many with agriculture degrees or diplomas, are involved. On average, agents measure about 350 crops each.

- Commission fees are as follows:
    - Calculating yields - $15 per crop.
    - Application renewal - $11 per contract plus $5 per crop.
    - Bonus for new sales.
    - Acreage report - 22¢ per acre with a minimum of $17 and a maximum of $90.

- In total, about one million dollars in commissions are paid annually.

- Adjustment:

Adjusters are hired on a daily basis by the Crop Insurance Commission. Total adjustment costs are about one million dollars for each of 1985 and 1986.

In response to a submission by the Ontario Federation of Agriculture (OFA) the crop insurance commission carried out a review of the program in 1986.

Among other things, OFA wanted to see a provision for separate contracts by land lot (spot loss), a hail and wind rider, and that present price options be maintained, i.e., not to lower coverage levels in response to declining grain markets - cover cash costs.

- Spot loss

Rejected by crop insurance officials for the following reasons:

- Difficult and costly to administer.
- Premiums would have to be increased by at least 40 percent - no actuarial base.
- Not equitable.
  For example, two farmers were both insured for 5,000 bushels, farmer A on one parcel of land (lot) and farmer B on three lots. Both averaged over 5,000 bushels. Farmer A gets no payment. However farmer B had high yields on two lots and a low yield on one lot; under spot loss coverage he would receive a payment.
- Spot loss is against the principles of crop insurance. With disaster insurance, the objective is to provide protection for the farm unit or for an entire crop. If average yields are

sufficiently high, a disaster has not occurred and even though a loss may have occurred on a particular field or lot, there is no justification for compensation.

In summary, a majority of committee members were against spot loss coverage of any kind because of inequities, higher premium costs and increased risk of adverse selection.

* They also emphasized that crop insurance is production not market insurance. At no time should prices be set higher than market value.

5.8 Canada-Quebec Crop Insurance Program

The Quebec program is based on individual coverage. A seven year moving area average is used for starting participants with individual yields built in over time. Coverage at 80 percent is offered.

The entire province is considered as one risk area and one basic premium rate for all farmers. The premium can vary according to the farmers loss to premium ratio. Spot loss is offered for some crops, e.g., fresh vegetables, but the corporation wants to abolish spot loss coverage.

Between 17,000 and 18,000 farmers participate, out of a total of about 40,000 in 16 different plans covering 62 crops.

Contracts must be renewed every year. Deadline for premium payment is April 1. Premiums are shared on the basis of 50 percent by the farmer and 25 percent each by the federal and provincial governments. Premiums approximate about ten percent of coverage.

Forage coverage is available and, like Manitoba's, is based on area yield rather than individual. Livestock units may also be insured. About 70 percent of forage growers are in the program.

5.9 Conclusion

The Alberta Crop Insurance Program encompasses all or most of the directly comparable features found in the other provincial and U.S. programs.

Chapter 6

EFFECTS OF THE ALBERTA HAIL AND CROP INSURANCE PROGRAM ON RESOURCE SUSTAINABILITY

6.1 Background

Salinization, loss of organic matter and erosion by wind and water are major soil degradation problems in the prairie provinces. It is estimated that the combined losses from these major soil degradation problems (particularly salinity and erosion) are costing Alberta producers in excess of $100 million per year through reduced productivity. This estimate does not take into account the environmental costs (e.g. sedimentation and reduced water quality), the costs of repairing affected lands, costs of reversing environmental damages and the value of lost soil.

Inappropriate farming practices have been shown to be responsible for a significant portion of the decline in the quality of our soils. Crop insurance, to the extent that it influences cropping practices, has an effect on the sustainability of the soil.

Soil conservation is long-term in nature, whereas programs such as crop insurance are more concerned with critical short-term farm viability. Consequently, a panel of specialists was set up within Alberta Agriculture to document the influence that the AHCIC program has on soil conservation.

6.2 Farming Practices That Lead To Resource Degradation

A number of farming practices have been implicated in the decline of our soils, among them are summerfallow or excessive tillage, poor crop management and the farming of fragile soils.

6.2.1 Summerfallow and excess tillage

More than any other single farming or land management practice, summerfallow has been shown to be responsible for each of the major soil degradation problems. Salinity, wind erosion, water erosion and organic matter decline occur primarily as a result of not maintaining a plant or plant residue cover on the soil at all times. Water body sedimentation and wildlife habitat losses also occur because of summerfallowing and excessive tillage.

The practice of summerfallowing originated as a means of controlling weeds, conserving moisture and enhancing nitrogen availability. Today, however, better farm equipment, fertilizers, more effective chemicals and application methods for pest control and improved systems of managing moisture have significantly reduced the need to summerfallow, or even till the soil. Summerfallow has its place, but not to the extent that it is still practised in the nineteen eighties.

6.2.2 Poor crop management

Minimal seeding rates, poor quality seed, low levels of fertilizer application and poor weed control are some of the factors that cause low crop yields. As a result of low production levels, little crop residue remains after harvest. If the residue is worked into the soil, the field becomes highly susceptible to erosion from wind or water.

When cropland is poorly managed for a number of years, the risk of salinization increases and organic matter content of the soil decreases.

6.2.3 Farming fragile soils

Coarse-textured soils in areas subject to extensive wind, such as the sandy soils in the chinook belt of southern Alberta, make certain lands extremely vulnerable to wind erosion. Similarly, farmland in the

Peace River district incurs heavy soil losses from water erosion as a result of snowmelt and heavy rainfall on the fine textured soils and the long gentle slopes. These areas of the province require special management to minimize degradation, especially if they are to remain in annual crop production.

6.3 Farming Practices That Help Maintain Soil Fertility

6.3.1 Well managed crop production systems

Well managed crop production systems, reduced tillage and the incorporation of forages into crop rotations help to minimize salinity, erosion and organic matter losses.

High yielding crops are the result of proper pre-season residue management, the use of high quality seed and an optimal seeding rate, adequate fertilizer applications, an effective weed control program and timely field operations. Crop rotations are also important in achieving long-term high-yield levels.

High yields result in lower water tables, reducing the risk of salinization. High yields also produce substantial crop residues that protect the soil from erosion and are essential to maintaining or increasing organic matter levels.

6.3.2 Reduced tillage systems

Minimum tillage or zero-till makes it possible to maintain a protective crop residue cover and thus minimize erosion. Decreased tillage also favors the buildup of soil organic matter and moisture conservation. In addition, standing stubble helps to trap snow which can significantly increase soil moisture for re-cropping.

6.3.3 Forage production

The inclusion of forages in a crop rotation system enables a farmer to more easily maintain or build up the organic matter level of the soil. If the forages are used on-farm as a livestock feed, the manure from the livestock operations also assists in soil maintenance and enhancement. Forages also play a key role in minimizing or reversing salinization because the deep roots use excess water. Where fragile soils are seeded to grasses or legumes, risk of wind and water erosion is greatly reduced once the forages are established.

6.4 Impact Of The AHCIC Program On Resource Sustainability

Following are three areas of the hail and crop insurance program that impact negatively and one that impacts positively on the sustainability of our agricultural resource base.

6.4.1 Higher coverage for fallow seeded crops

The present level of AHCIC coverage for crops seeded on stubble is only 65 to 85 percent of the coverage available for crops seeded on fallow. However, many farmers in Alberta are continuous cropping with average annual yields nearly equal to those on fallow as a result of improved moisture management, higher fertility levels, better weed control, etc.

AHCIC data show that for Agroclimatic Zone 1 (central Alberta), nine year average barley yields on stubble (for the 1976-84 period) was 93.5 percent of fallow yields. Similarly, wheat and canola yields on stubble were 88.5 and 88.8 percent of fallow yields[1]. It should be noted that these figures represent averages only for those farmers with crop insurance and does not necessarily reflect the actual difference in yield between crops grown on stubble and summerfallow had the productivity of all farmers been taken into account. In other words, the existing coverage differential between fallow and stubble seeded crops may not reflect the relative productivity potential of stubble seeded crops.

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[1] Source: Evaluation of the Soil Class Categories Employed by Alberta Hail and Crop Insurance Corporation, Agriculture Canada, August 1986. Table 4, pg. 34.

Given the differentials that are used, present coverage levels encourage summerfallow instead of re-cropping, resulting in many soils being susceptible to erosion, organic matter decline and groundwater recharge that leads to dryland salinity.

In addition to encouraging summerfallow, the wide coverage differential may also encourage farmers to continue seeding winter wheat and fall rye on summerfallow rather than on stubble, even though the risk of winter-kill and erosion is increased on summerfallow. Furthermore, the survival provision and the reseeding benefit both apply to fall-seeded crops on fallow as well as on stubble, providing no incentive for farmers to stubble-in crops in the fall as a means of minimizing winter-kill and erosion.

6.4.2 High-risk subsidy

The high-risk subsidy generally applies to soils with a lower classification that are characterized by higher risk. For instance, in the Peace River region on D soil (fallow 70% coverage - high price option) the total premium for canola is $24.90 per acre and the farmer pays $5.25 per acre. The coverage level is 10.4 bushels per acre.

The high-risk subsidy could lead to soil degradation if, by reducing risk at a low cost, farmers were to adapt cropping practices not suited to the area. For example, there may be a tendency to follow a crop-summerfallow rotation rather than a crop-forage rotation. If the risk of losing a crop is high, perhaps it is grown with minimum inputs, i.e., fertilizer or weed control. As a result, the soil may become degraded and more susceptible to wind and water erosion.

6.4.3 Area-average coverage impact on resource management

Under area coverage, farmers using average management and obtaining average yields are ensured of reasonable coverage year after year. At the same time, farmers who apply low levels of management and receive below average crop yields can also obtain respectable coverage since the yield averaging mechanism under area coverage masks the financial penalties associated with poor management practices. It is these poor managers' fields that are most susceptible to soil degradation.

If farmers are to continue being insured under area coverage, more data needs to be collected to determine whether the program's participants are representative of Alberta grain producers. For example, there is a question as to whether better managers are participating in the program. It is an important question from a resource management perspective, assuming that better managers are more likely to maintain their land base. However, at the present time, there is no way of accurately identifying characteristics of AHCIC participants in relation to the "population" of all grain producers.

One way of approximating an answer to the question of whether better managers are participating in the program is to begin by defining better managers as those individuals who achieve higher average yields. A 1981 Alberta Agriculture study of 325 above-average barley growers (identified as such by the District Agriculturists and, therefore, not randomly selected), in the Dark Brown, Black and Gray-wooded soil zones of central Alberta found that yields averaged 49 bushels per acre for the low management group and 94 bushels per acre for the top management group. Estimated five-year average yields (for 1977-1981) were 54 bushels and 75 bushels per acre, respectively.

A preliminary analysis of the AHCIC records for the same area found that the area average barley yield for 1981 was 59 bushels per acre and 57 bushels per acre for 1977 - 1981.

This comparison would seem to indicate that the majority of AHCIC participants obtain less than optimal yields. The fact that the 1981 study did not use random selection of farmers and chose above-average barley growers makes such a conclusion questionable. Perhaps all the comparison accomplishes is to emphasize the need for better data collection under the Hail and Crop Insurance program.

6.4.4 Forage production coverage

Forage production coverage gives producers greater security, as they know they are at less financial risk from crop failure caused by the weather and that their feed supplies are protected for the year. This greater security may lead to an increase in the number of cattle and the number of acres seeded to forages, resulting in substantial benefits to the soil.

As a result of the program, farmers can now choose to seed forages on soils prone to salinity and wind or water erosion and obtain insurance on the crop. The long-term effect should be a reduction in soil degradation.

6.5 Recommendations (of the Panel of Specialists)

- Re-evaluate the yield differentials that exist in the current program between crops grown on fallow and on stubble and provide coverage accordingly.

- Re-evaluate the impact of the high-risk subsidy on resource allocation and/or resource neutrality.

- Consider moving more toward individual coverage for all producers as a means of achieving higher management levels in crop production and resource use. Such a move would remove "soil miners" from subsidization by the AHCIC.

- Drop the reseeding coverage for over winter wind damage on winter wheat and fall rye seeded into summerfallow and insure only fall-seeded crops grown on stubble.

- Further improve coverage of forages under the Livestock Feed Security Program to promote forages and livestock with "forage establishment" coverage.

CHAPTER 7

RESEARCH RESULTS

7.1 Introduction

The results reported in this section represent a summary of a more comprehensive and detailed analysis of the Alberta Hail and Crop Insurance Program.[1]

The comprehensive report is comprised of the following major sections: the basic principles underlying the Canada-Alberta insurance program; an analysis of the major components of the Alberta Hail and Crop Insurance Program including the setting of coverage levels and premium rates, risk areas, coverage adjustments and premium discounts, farmers' cost of production, price options, the federal- provincial reinsurance agreement and an analysis of the relationship between crop insurance and the Western Grain Stabilization Plan; recommendations for improvement of the Canada-Alberta Hail and Crop Insurance Program.

7.2 Instability In Alberta's Agricultural Industry

The instability associated with crop yields, prices and other economic factors confronting agricultural producers in Alberta has caused a widely fluctuating income picture for the provincial agricultural industry. Indeed, Alberta farmers face two major income problems: a highly unstable net farm income; a greatly reduced profit margin between gross farm income and operating and depreciation costs.

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[1] The more comprehensive analysis is entitled, Agricultural Instability and Crop Insurance in Alberta, 1986.

Over the period 1960 to 1985, the average year-to-year variation in net farm income was 28.5 percent (Table 7.2.1). In other words, Alberta farmers' net farm income in any given year varied, on average, anywhere from 28 percent above to 28 percent below the income of the previous year. Few other occupations face a year-to-year income variability of this magnitude.

What is equally important, the margin between gross farm income and operating and depreciation costs has narrowed significantly since the mid 1970's. In 1976, for example, operating and depreciation costs absorbed about 73 percent of the gross farm income in Alberta; by 1984, this figure had increased to 91 percent.

This reduced margin exposes Alberta farmers as never before to the risks associated with natural hazards, fluctuating prices and other economic uncertainties such as interest rate changes and global market conditions. Highly debt leveraged farmers are particularly vulnerable to these uncertainties.

The average year-to-year variability in crop yields and prices in Alberta has been significant during the past 25 years (Table 7.2.2).

Without programs such as the WGSP, crop insurance and other *ad hoc* measures, the farm income instability problem would have been accentuated, particularly during the 1984 and 1985 drought years. During the two drought years, net crop insurance payments in Alberta amounted to $157 million and $160 million respectively (Table 7.2.3) Large payments were also made during the same two years under the WGSP and various *ad hoc* programs.

When these payments are subtracted from the total net farm income in 1985, it will be noted that Alberta farmers actually derived a relatively small net income from their actual farming operations. Indeed, in 1984, when all government payments were subtracted from the total net farm income, Alberta farmers actually had a negative net income from their farming operations.

Table 7.2.1

Aspects Of Farm Income In Alberta, 1960-85

Year	Year-To-Year Variation In Net Farm Income	Operating And Depreciation Expenses As Per Cent Of Gross Farm Income
	(%)	(%)
1960	-	61.8
61	0.6	62.9
62	24.0	56.1
63	4.4	56.7
64	(19.3)	63.8
65	25.9	60.0
66	18.7	57.2
67	(25.8)	66.1
68	28.2	62.1
69	(25.2)	68.8
70	(12.6)	71.5
71	1.9	73.0
72	42.3	68.2
73	96.2	57.1
74	6.3	61.8
75	11.1	63.2
76	(27.6)	73.3
77	(39.8)	83.1
78	89.8	74.5
79	17.1	75.5
80	4.9	77.4
81	2.0	80.6
82	(34.0)	86.4
83	(27.2)	89.6
84	(25.0)	91.4
85	82.2	86.7
Average 1960-85	28.5	76.5

Source: Compiled from Statistics Canada, Agriculture Statistics Division 1960-84; Agricultural Outlook Conference, Agriculture Canada, 1985.

Table 7.2.2

A Comparison Of Year-To-Year Variation:
Wheat And Barley Yields And Average Farm Prices
1960-85

	Average Year-To-Year Per Cent Change		
	1960-69	1976-85	1960-85
	(%)	(%)	(%)
Wheat			
Price Variation	9.61	12.91	16.66
Yield Variation	15.70	10.71	12.30
Barley			
Price Variation	11.67	18.54	19.86
Yield Variation	11.79	4.54	8.5

Source: Compiled from Statistics Canada, Agricultural Statistics Division.

Table 7.2.3

Alberta Farm Income And Related Support Programs

	1983/84	1984/85	1985/86
	($000,000)	($000,000)	($000,000)
Gross Farm Income	3559	3632	3801
Net Farm Income	370	278	506
Net Crop Insurance Indemnities	32	157	160
WGSA Payments	35	126	NA
Ad Hoc Programs	16	28	140

Sources: Compiled from Statistics Canada, Agricultural Statistics Division; AHCIC Annual Reports, Western Grain Stabilization Annual Reports; and H.B. Jeffery Agro-Consulting "Alberta Drought Related Programs" 1986.

The reality is that Alberta Agricultural producers are forced to live with and adapt to instability in their industry. This is the context in which the Alberta Hail and Crop Insurance Program must be assessed.

7.3 Enhanced Coverage Levels And The Principle Of Increasing Risk

Insured farmers frequently observe that they would be willing to pay somewhat more in terms of their premium rates if they could achieve a better level of coverage protection under their crop insurance program. It is often assumed that if their coverage level is increassd from 60 to 70 percent, or from 70 to 80 percent of their average yield, their premiums would increase at a corresponding percentage rate. This is not the case.

The data in Table 7.3.1 illustrate the premium rates required for coverage levels at 60, 70 and 80 percent for risk areas 2, 8, 10 and 11 in Alberta. The corresponding relationship between premium rates and coverage levsls is illustrated in Figure 7.3.1.

It will be noted that premium rates (lost-costs) increase at an increasing rate as coverage levels are increased from 60 to 80 percent. The fundamental aspect of the relationship between premium rates and coverage levels is this: the probability of "loss" on the top part of the average yield is much higher than the corresponding loss on a lower portion of that same average yield.

7.3.1 Relationship Between Basic Coverages And Premium Rates And Variable Deductible Ranges

Under the normal curve distribution, the expectation of actual yields values close to the average is higher than the expectation of

Table 7.3.1

Average Yields, Varying Coverage Levels, Loss Costs And Premium Rates, In Risk Areas 2, 8, 10 And 11 For Wheat Alberta, 1984

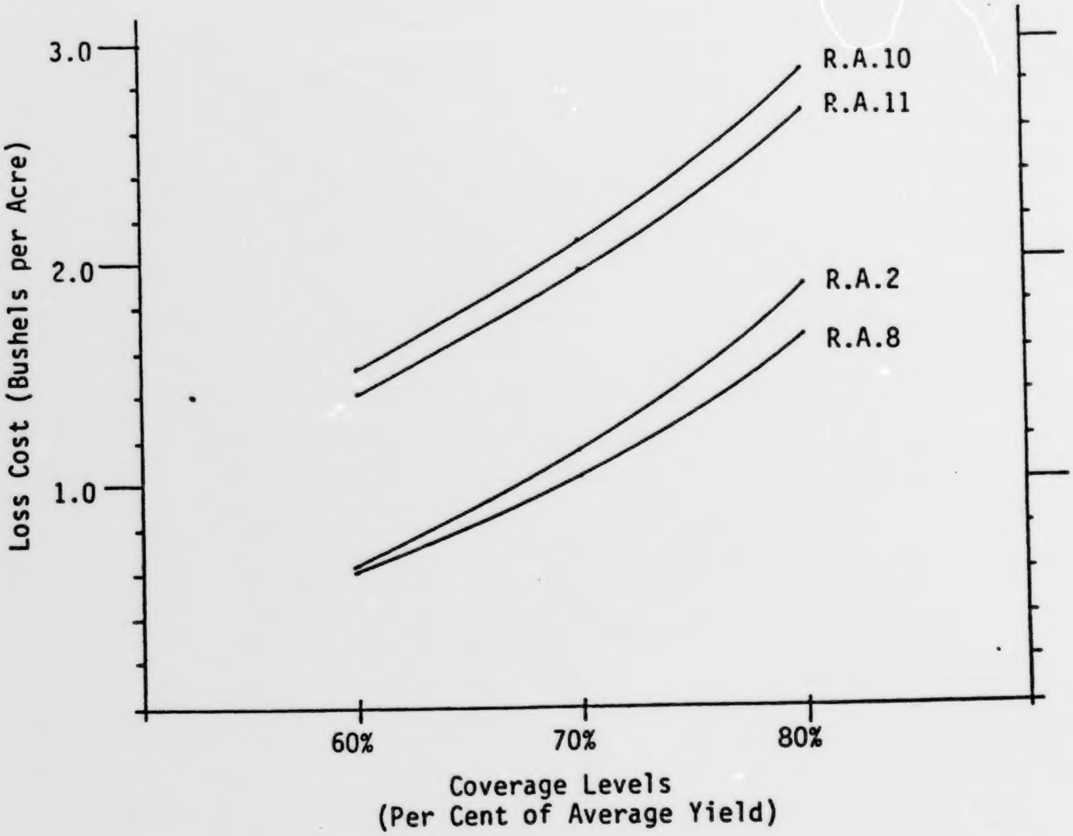
	Ten Year Moving Average Yield (1974-83)	60% Coverage		
		Bu/Acre	Average Annual Loss Cost Per Acre (bu)	Premium Rate (%)
Risk Area 2	28.72	17.23	0.64	3.1
Risk Area 8	27.72	16.63	0.61	3.7
Risk Area 10	33.57	20.10	1.53	7.6
Risk Area 11	29.50	17.70	1.42	8.0

	70% Coverage			80% Coverage		
	Bu/Acre	Average Annual Loss Cost Per Acre (bu)	Premium Rate (%)	Bu/Acre	Average Annual Loss Cost Per Acre (bu)	Premium Rate (%)
Risk Area 2	20.10	1.162	5.7	22.98	1.892	8.2
Risk Area 8	19.40	1.04	5.4	22.18	1.67	7.5
Risk Area 10	23.48	2.12	9.0	26.81	2.88	10.7
Risk Area 11	20.65	1.98	9.6	23.60	2.69	11.3

Source: Risk Area Yield Data, AHCIC.

Figure 7.3.1

Relationships Between Loss Costs And Coverage Levels
(R.A. - Risk Area)



yields more distant from the average yield. Similarly, as the coverage level increases as a percent of average yield, there is increased probability of an insurance loss. The basic relationshiop between changes in loss costs (or premiums) from coverage level to coverage level is determined by a formula based on the normal curve.

The proportion of insured farmers who would be indemnified is shown in the shaded areas of Figure 7.3.1.1. Actual loss costs based on recorded wheat yields for Risk Area 1, Manitoba, are presented in Table 7.3.1.1.

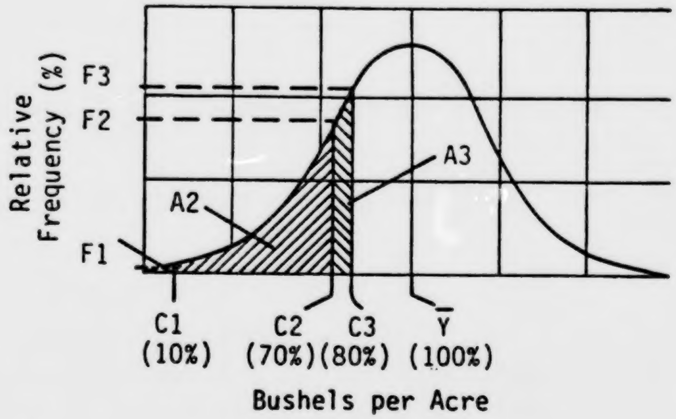
It is noted first, that the coverage (C) may vary along the horizontal axis between 0 and $\bar{Y}$. Second, any value of $C \leq Y$, results in the farmer absorbing the deductible, i.e. the loss between C any $\bar{Y}$ which is not indemnified.

As illustrated in Figure 7.3.1.1, increasing coverage from 70 percent to 80 percent (C_2 to C_3) results in an increase in acreage eligible for coverage from F_2 to F_3 and in total indemnities by area A_3. The change in average annual loss costs is from 1.357 to 2.041 bushels per acre (Table 7.3.1.1). Note that at 70 percent coverage, the yield range in which unindemnifiable losses occur is from C_2 tc $\bar{Y}$ and at 80 percent coverage, from C_3 to $\bar{Y}$.

An alternative approach to determining coverage at any coverage level has been proposed by farmers as a means of increasing the protection available from crop insurance. This should be accomplished without exceeding the maximum coverage to average yield ratio (80 percent) stipulated by crop insurance legislation. The proposed change would shift the yield range which would constitute the deductible; that is, at 70 percent coverage the farmer sustains losses between 70 percent and 100 percent of average yield under the present system. The modification would provide coverage from 10 percent to 80 percent 20 percent to 90 percent, or 30 percent to 100 percent of average yield (i.e. the coverage would remain constant at 70 percent) whereas the deductible or unindemnified loss range would change.

Figure 7.3.1.1

Location Of The Indemnifiable Yield Loss Range



Location of the indemnifiable yield loss range under the normal curve when the deductible range is changed (i.e. from 70% to 80-10% coverage).

$\overline{Y}$ - average yield - 22.95 bu/ac (1961-85)

C_1 - coverage level at 10% of average yield (2.3 bu)

C_2 - coverage level at 70% of average yield (16.07 bu)

C_3 - coverage level at 80% of average yield (18.36 bu)

- proportion of insured acreage with yields eligible for indemnities

A_1 - proportion of acreage with yield losses eligible for indemnity at 10% coverage

$A_1 + A_2$ - proportion of acreage with yield losses eligible for indemnity at 70% coverage

$A_1 + A_2 + A_3$ - proportion of acreage with yield losses eligible for indemnity at 80% coverage

F_1 - percentage of acreage with yields expected at 10% of average yield

F_2 - percentage of acreage with yields expected at 70% of average yield

F_3 - percentage of acreage with yields expected at 80% of average yield

Table 7.3.1.1

Comparative Loss Costs For 70%, 80% And 90% Coverage Levels And 10-80%, 20-90% And 30-100% Coverages Risk Area 1, Manitoba, 1961-85, Using The Normal Curve Formula

	Loss Costs (Bushels per acre) At Coverages Of:					
Year	70%	80%	90%	10-80%	20-90%	30-100%
1961	7.980	10.272	12.568	10.247	12.403	14.202
62	0.084	1.573	2.388	1.557	2.349	3.368
63	1.654	2.645	3.950	2.628	3.904	5.438
64	0.957	1.528	2.320	1.511	2.281	3.273
65	0.821	1.304	1.977	1.287	1.940	2.792
66	0.869	1.384	2.100	1.367	2.062	2.966
67	2.095	3.317	4.871	3.300	4.821	6.574
68	1.073	1.719	2.607	1.702	2.567	3.669
69	0.572	0.889	1.333	0.871	1.298	1.865
70	1.279	2.053	3.101	2.036	3.059	4.337
71	0.592	0.923	1.386	0.905	1.351	1.942
72	1.032	1.652	2.507	1.635	2.467	3.532
73	0.627	0.982	1.478	0.964	1.443	2.077
74	1.077	1.725	2.615	1.708	2.576	3.681
75	0.850	1.352	2.051	1.335	2.014	2.897
76	1.156	1.854	2.808	1.838	2.768	3.944
77	0.451	0.688	1.017	0.669	0.983	1.401
78	0.555	0.861	1.290	0.843	1.255	1.801
79	1.273	2.043	3.086	2.026	3.044	4.317
80	4.098	6.043	8.193	6.024	8.120	10.210
81	0.798	1.265	1.918	1.248	1.881	2.708
82	0.545	0.844	1.263	0.826	1.229	1.763
83	1.025	1.641	2.490	1.624	2.450	3.509
84	1.116	1.789	2.711	1.772	2.671	3.812
85	0.440	0.669	0.989	0.651	0.955	1.359
25-Year Average	1.357 bu/ac	2.041 bu/ac	2.921 bu/ac	2.023 bu/ac	2.876 bu/ac	3.897 bu/ac

Source: Yield Data from Manitoba Crop Insurance Corporation.

In reference to Figure 7.3.1.1, the 10-80 percent insurance coverage would indemnify yields from 0 to C_3. However, since the deductible or unindemnified loss occurs from C_3 to $\bar{Y}$ and from 0 to C_1, the total insurance losses under the normal curve would be areas A_2 and A_3. Note that the frequency of yields between C_2 and C_3 ($F_3 - F_2$) exceeds the frequency of yields between 0 and C_1 (F_1). As a result, 10-80 percent coverage loss costs per acre are significantly greater than those at 70 percent coverage $\frac{2.023}{1.357} \times 100 = 149\%$ greater, from Table 7.3.1.1).

In general, the probability of losses between any yield values of C and $\bar{Y}$ is higher than the probability of losses between yields of 0 and C of corresponding range. Therefore, loss costs are likely to be larger and insurance will require higher premiums for any scheme of shifted deductibles which substitutes low probability yield events for higher probability yield events. As shown in Table 7.3.1.1, the premiums for conventional 90 percent coverage would be exceeded by premiums for 30-100 percent coverage by 133 percent, in which the losses below 30 percent of average yield are sustained by the farmer. Expressed in another way, the average annual expected loss cost attributable to yields between 90 percent and 100 percent of average yield is 1.088 bushels per acre, while the corresponding loss cost between 0 and 30 percent of average yield is only 0.112 bushel per acre.

Table 7.3.1.2 presents loss costs at the 60 percent coverage level and ranges of 60 percent between 0 and 90 percent. It is noted that the between 10-80 percent coverage and 20-80 percent coverage is negligible (2.023 to 1.996 bushels per acre), as is the difference between 10-70 percent and 70 percent coverages.

7.4 Basic Yields, Coverage And Premium Setting

Setting of coverage levels and premiums is the mechanism through which crop insurance is offered to the farmer. The insured level of crop yield represents a percentage of the annual yield average over an

Table 7.3.1.2

Comparative Loss Costs For 60% Coverage And 10-70%, 20-80% And 30-90% Coverages, Risk Area 1, Manitoba 1961-83 Using The Normal Curve Formula

	Loss Costs At Coverages Of:			
Year	60%	10% - 70%	20% - 80%	30% - 90%
1961	5.710	7.954	10.108	11.908
62	.582	.967	1.534	2.304
63	.959	1.637	2.599	3.838
64	.567	.940	1.489	2.237
65	4.92	.804	1.267	1.900
66	.519	.852	1.346	2.021
67	1.215	2.078	3.267	4.740
68	.632	1.056	1.679	2.519
69	.354	.554	.854	1.267
70	.747	1.262	2.011	3.004
71	.365	.574	.888	1.319
72	.609	1.015	1.613	2.421
73	.385	.609	.946	1.409
74	.634	1.060	1.685	2.527
75	.508	.833	1.314	1.972
76	.678	1.139	1.813	2.716
77	.287	.433	.654	.956
78	.345	.537	.826	1.224
79	.743	1.256	2.001	2.990
80	2.492	4.080	5.971	7.963
81	.479	.781	1.228	1.842
82	.339	.527	.809	1.198
83	.605	1.008	1.602	2.404
84	.658	1.099	1.749	2.621
85	.281	.422	.635	.928
25-Year Average	0.847 bu/ac	1.339 bu/ac	1.996 bu/ac	2.809 bu/ac

Source: Yield Data from Manitoba Crop Insurance Corporation.

historical time period. Tha actuarial premium is the fee per acre, equal to the expected average annual loss across all insured acres, which is required to sustain the insurance scheme over time.

AHCIC determines risk area average annual yields for each crop from a 10 year moving average of actual crop yield records. The area average yield is adjusted to reflect different yield experience for each soil class and for fallow/stubble cropping practices. Insurance coverage is offered at either 60 percent or 70 percent of the yield average and at two price options. A farmer choosing insurance selects his coverage and price option in relation to various factors, such as his actual out-of-pocket costs, ability to afford insurance, yield expectations and level of risk protection desired.

Premium setting in Alberta is based on average annual loss costs over a period of 25 years for each crop and risk area. Since AHCIC has detailed actual yield recerds only since 1965, loss cost calculations combine both actual losses and expected values using the normal curve distribution. The federal and provincial governments pay for on average, 54 percent of the cost of premium with the remainder charged to the farmer.

The calculated actuarial premium is "loaded" to recover costs to the program which are not represented by low yields in relation to coverage. These are:

- Costs which are not crop-specific, such as payments for unseeded acreage,
- Crop-specific costs due to the writing-off of very low yields for insurance purposes (small appraisals),
- Crop-specific costs from foregone premium revenues due to premium discounting (size and experience discounts),

- Increased crop-specific losses due to the increased liability associated with upward coverage adjustments and quality loss guarantees (see Table 7.4.1).

Assessment of experience

Alberta crop insurance coverage experience for the period prior to 1984 was characterized by fairly consistent increases in coverage levels due to favorable weather and growing conditions. With the widespread crop losses in 1984 and 1985, the moving averages of yields in many risk areas have declined substantially (e.g. Table 7.4.2). This would have caused major reductions in coverage in 1986, had the Provincial Coverage Restoration Program not been introduced, freezing coverages at the levels as of January 1, 1984.

Since the Coverage Restoration Program is set to expire at the end of the 1986 crop year, coverages will revert to those levels calculated by the 10-year moving average for 1987 and thereafter. The prospect is that coverage levels will be depressed until the yields of 1984 and 1985 have passed through the averaging series, providing that crop failures do not occur in the meantime. The impending problem is that the current yield averaging mechanism of AHCIC will not accurately estimate yield expectations of Alberta farmers in the immediate future. As a result, the stabilizing role of crop insurance in the farm economy will be reduced.

Premiums are strongly influenced by the loading factors which characterize the AHCIC premium setting structure. As indicated in Table 7.4.3, total loadings at 60 percent coverage, even in 1986, ranged from 20 percent (Risk Area 11, wheat) to 46.5 percent of the initial actuarial premium (Risk Area 6, canola). When inserted into the formula for premium calculation (Table 7.4.4), loadings, and the insurance provisions they represent, are seen to have caused adjustments to the initial actuarial premium by 25 to 87 percent. In comparison, it may be

Table 7.4.1

Schedule Of Quality Guarantees By Crop And Grade
Alberta Crop Insurance

Grain	Designated
Spring Wheat	No. 2 Canada Western Red Spring
Durum Wheat	No. 2 Canada Western Amber Durum
Utility Wheat	No. 2 Canada Utility
Soft White Spring Wheat	No. 2 Canada Western Soft White Spring
Winter Wheat	No. 2 Alberta Winter
Oats	No. 2 Feed
Barley	No. 1 Feed
Mixed Grain	No. 1, 2, 3, 4 or 5
Rye	No. 2 Canada Western
Rapeseed	No. 1 Canada
Flaxseed	No. 1 Canada Western
Mustard	No. 1 Canada Western

Source: AHCIC Annual Reports.

Table 7.4.2

Annual Yields And 10-Year Moving Averages Of Yields
Risk Area 5, Calgary North, Alberta
Wheat And Barley, 1965-86

Year	Wheat		Barley	
	Annual Average (bu/ac)	Preceding Ten Years Moving Average (bu/ac)	Annual Average (bu/ac)	Preceding Ten Years Moving Average (bu/ac)
1965	32.39	24.46	46.81	36.38
66	39.90	25.34	51.16	37.92
67	26.76	26.82	40.64	39.54
68	33.74	27.30	47.00	40.41
69	31.60	28.00	46.52	41.21
70	27.41	28.60	43.44	42.55
71	28.23	42.78	43.52	43.52
72	35.78	30.15	51.84	45.07
73	36.79	31.79	52.68	46.76
74	33.99	32.36	49.11	46.92
75	32.36	32.66	41.65	47.20
76	34.25	32.66	44.46	46.68
77	27.70	32.09	35.79	46.01
78	35.27	32.18	55.95	45.53
79	30.70	32.34	50.77	46.42
80	36.39	32.25	51.44	46.85
81	40.35	33.15	53.38	47.65
82	34.17	34.36	48.90	48.71
83	30.94	34.20	51.78	48.41
84	20.55	33.61	28.50	48.32
85	20.35	32.27	28.82	46.26
86		31.07		44.98

Source: AHCIC Premium Rate Calculation Tables.

Table 7.4.3

Premium Rate Loadings By Risk Area, Alberta, 1986

Spring Wheat - 60%

Loads	Risk Areas 1	2	3	4	5	6
Size and Experience	23.69	23.43	21.47	21.73	27.72	25.59
Small Appraisals	.60	.29	.18	.28	.15	.07
Increased Liability	4.00	8.00	11.00	14.00	16.00	20.00
	28.29	31.71	32.65	36.01	43.87	45.66

Barley - 60%

Loads	Risk Areas 1	2	3	4	5	6
Size and Experience	23.13	22.11	17.35	22.34	25.89	25.56
Small Appraisals	.60	.29	.18	.28	.15	.07
Increased Liability	4.00	8.00	11.00	14.00	16.00	20.00
	27.73	30.40	28.53	36.62	42.04	45.63

Rapeseed - 60%

Loads	Risk Areas 1	2	3	4	5	6
Size and Experience	23.99	25.25	17.04	21.03	26.43	26.42
Small Appraisals	.60	.29	.18	.28	.15	.07
Increased Liability	4.00	8.00	11.00	14.00	16.00	20.00
	28.59	33.54	28.22	35.31	42.58	46.49

Table 7.4.3 (continued)

Spring Wheat - 60%

	Risk Areas					
Loads	7	8	9	10	11	12
Size and Experience	17.36	21.35	11.71	15.52	14.30	22.36
Small Appraisals	.29	.19	.44	.27	.68	.50
Increased Liability	12.00	13.00	11.00	13.00	6.00	15.00
	29.65	34.54	23.15	28.79	20.98	37.86

Barley - 60%

	Risk Areas					
Loads	7	8	9	10	11	12
Size and Experience	16.98	19.59	13.97	17.84	15.45	20.97
Small Appraisals	.29	.19	.44	.27	.68	.50
Increased Liability	12.00	13.00	11.00	13.00	6.00	15.00
	29.27	32.78	25.41	31.11	22.13	36.47

Rapeseed - 60%

	Risk Areas					
Loads	7	8	9	10	11	12
Size and Experience	16.93	21.24	12.99	16.29	14.37	23.20
Small Appraisals	.29	.19	.44	.27	.68	.50
Increased Liability	12.00	13.00	11.00	13.00	6.00	15.00
	29.22	34.43	24.43	29.56	21.05	38.70

Source: AHCIC Premium Calculation Tables.

Table 7.4.4

Example Of How Loading Factors Are Used In Premium Calculations

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$$\text{Premium} = \frac{\text{Actuarial Premium}}{1 - (A + B + C + D)}$$

where,

A = size and experience discount loading (%)

B = small appraisal loading (%)

C = quality loss loading (%)

D = coverage adjustment loading (%)

assume,

Actuarial Premium = 6%

A = 5% size discount
20% experience discount

B = 0.15%

C = 0.5%

D = 15.5%

Example Calculation:

$$\text{Premium} = \frac{.06}{1 - (.25 + .0015 + .005 + .155)} = \frac{.06}{(1 - .4115)}$$

$$= (.06)\ (1.70) = .102 = \underline{10.2\%}$$

---

noted that the total premium loading of Manitoba Crop Insurance Corporation is in the order of 15 percent. The current situation is complicated by the fact that premium discounts and coverage adjustments, which are responsible for the bulk of the loading, cause a substantial redistribution of premium costs among insured farmers within the program. Program experience has shown that the accumulation of upward adjustments and discounts by individual farmers is not based totally on reduced risk of yield loss.

Of further note, small appraisals and quality loss costs, although comparatively small (see Tables 7.4.3 and 7.4.5) reprrsent double counting of loss costs when actual loss data are used to set the premium.

In summary, the basic yield calculation which determines coverage levels in Alberta is too sensitive to years of bumper crops/crop failure to accurately reflect yield trend or current year yield expectations. A more appropriate basic yield estimator would use a longer moving average base, providing greater year-to-year yield stability and representing the clear longer term increasing yield trend. The development of a technology factor is a complementary requirement, which should be applied to the long-term average to better estimate current year yield expectations and coverages.

With respect to premium loading, an overhaul is required to restore the actuarial base for premium calculation and to establish the relationships between the coverage adjustment, premium discount and actuarial schedules. Ideally, if insurance provisions accurately reflect yield expectations and risk probabilities, coverage adjustments and premium discounts should be normally distributed about the zero adjustment or discount, and coincide with the expected actuarial event i.e. losses equalling premiums over the long-term.

Finally, small appraisal and quality loss loading is conceptually sound only to the extent that normal curve calculations are used to estimate loss costs. These loading would be expected to be eliminated when 25 years of actual loss experience is available.

Table 7.4.5

Cumulative Quality Loss Experience
By Risk Area And Selected Crops
Alberta, 1968-84

Risk Area	Average Annual Quality Loss Cost As A Percent Of Adjusted Liability			
	Spring Wheat	Barley	Canola	All Crops
	(Per Cent)			
1	.38	.13	.72	.26
2	.13	.10	1.16	.23
3	.07	.10	.94	.19
4	1.27	.55	1.48	1.15
5	.48	.19	.95	.42
6	1.62	.37	1.16	.64
7	1.05	.27	1.03	.43
8	1.36	.63	.70	.96
9	2.45	1.00	.65	1.20
10	2.16	.70	.75	.90
11	3.46	.85	1.20	1.88
12	.40	.34	.77	.40
13	3.36	.46	.06	.84
14	3.49	1.01	1.48	1.50
Province	.90	.38	.97	.68

7.5 Crop Insurance Risk Areas

A geographical area designated as a single risk area is intended to represent a region in which the probability of crop loss due to those risks insured against, such as risk of drought, flood, insects, wind, hail and frost, is similar or uniform for all insured farmers. If the aggregated risk is constant in the area, the risk area is homogeneous for risk and the premium rate is identical for all insured acreages. Risk areas are generally set out in blocks for administrative, statistical and conceptual convenience.

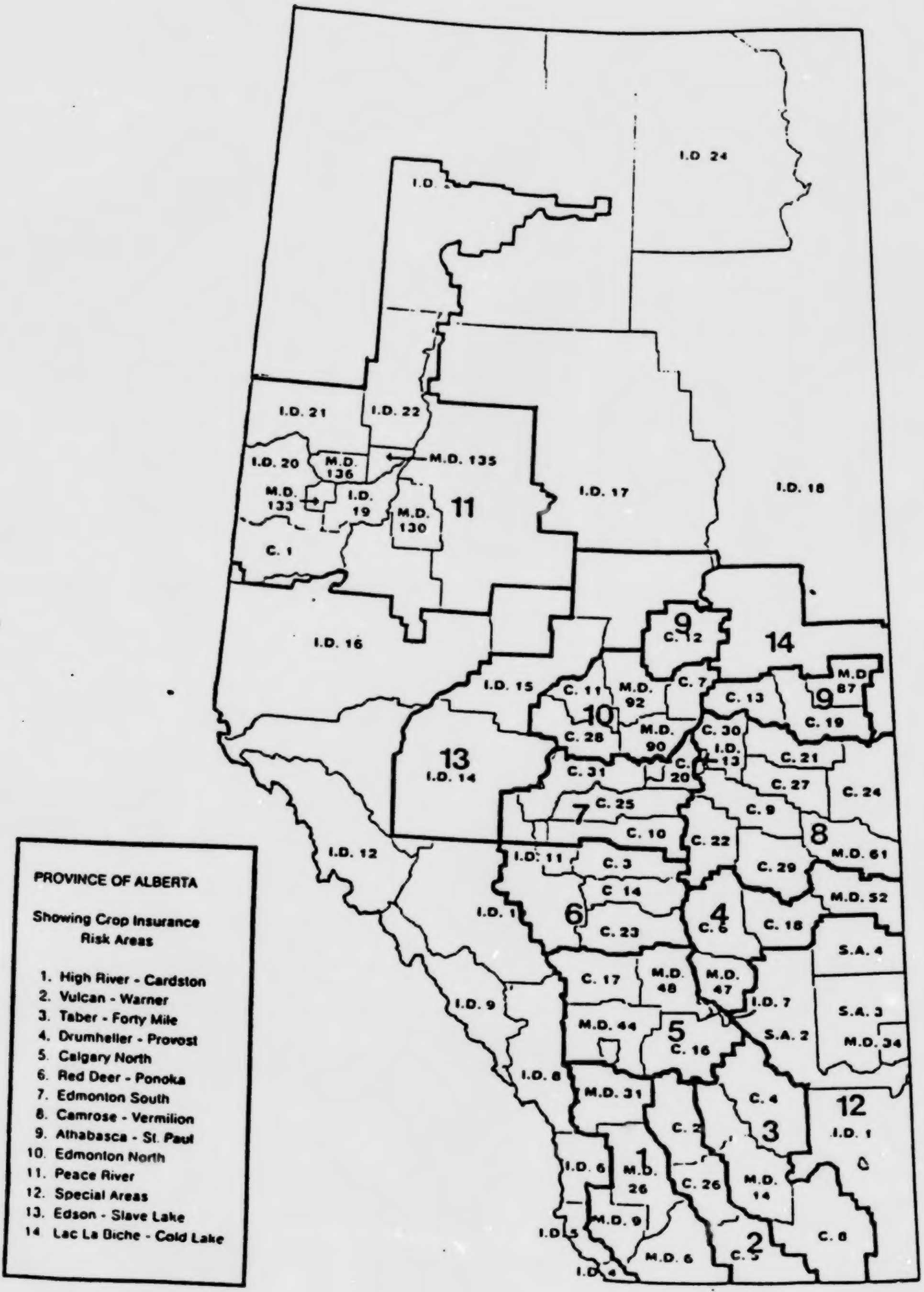
Since all-risk insurance insures against the probability of loss due to the occurrance of several unrelated factors during a crop season, the loss associated with each insurable cause is unclear and cannot be measured directly. For this reason, the aggregate loss is measured by the behaviour of crop yields from year-to-year. The condition that a risk area be homogeneous for yield, (i.e. that all farmers have identical yield expectations), is desirable but not necessary for the operation of insurance. When yields within a risk area are similar however, the setting of coverage levels and premiums is made easier and less susceptible to actuarial error.

Alberta Hail and Crop Insurance Corporation has divided the province into 14 risk areas (Figure 7.5.1). In reality, while the program has attempted to select risk area boundaries in a manner that maximizes risk and yield homogeneity, variable productivity on lands within specific risk areas is inevitable. To address this problem, AHCIC calculates separate average yields and coverages for each soil class within designated risk areas. It is to be noted that different actual average yields among farmers in a risk area assumed to be homogeneous for yield expectations would otherwise create adverse selectivity in the insurance program.

It is important to recognize that coverage adjustment by soil class under the risk area concept relates insurance liability to actual losses expected. This, in theory, prevents any farmer from insuring for higher yield protection than would be warranted by his yield expectation at a selected coverage level. It is to be distinguished from the coverage bonus/reduction and premium discount/surcharge mechanism, which adjusts coverage and premiums within risk areas to reflect individual differences in risk of loss due to localized natural conditions and/or management factors.

The AHCIC method of premium calculation, which quantifies the insurable risk, uses an area-average yield and an area-average loss in bushels per acre across all soil classes to determine a single premium for a crop in the entire risk area. Coverage, not premium, is adjusted to account for stubble/fallow cropping practices and soil class. In the

Figure 7.5.1.


PROVINCE OF ALBERTA
Showing Crop Insurance Risk Areas
1. High River - Cardston
2. Vulcan - Warner
3. Taber - Forty Mile
4. Drumheller - Provost
5. Calgary North
6. Red Deer - Ponoka
7. Edmonton South
8. Camrose - Vermilion
9. Athabasca - St. Paul
10. Edmonton North
11. Peace River
12. Special Areas
13. Edson - Slave Lake
14 Lac La Biche - Cold Lake
I.D. 24
I.D. 21
I.D. 22
I.D. 20
M.D. 136
M.D. 135
M.D. 133
I.D. 19
M.D. 130
11
I.D. 17
I.D. 18
C. 1
I.D. 16
9
C. 12
14
I.D. 15
C. 11
M.D. 92
C. 7
C. 13
M.D. 87
9
C. 19
10
C. 28
M.D. 90
C. 30
I.D. 13
C. 20
C. 21
13
I.D. 14
C. 31
C. 27
C. 24
7
C. 25
C. 9
C. 10
C. 22
8
M.D. 61
I.D. 12
I.D. 11
C. 3
C. 29
C 14
M.D. 52
I.D. 1
6
C. 23
4
C. 6
C. 18
S.A. 4
C. 17
M.D. 48
M.D. 47
I.D. 9
I.D. 7
S.A. 3
M.D. 44
5
C. 16
S.A. 2
M.D. 34
I.D. 8
M.D. 31
C. 4
12
C. 2
3
I.D. 1
I.D. 6
1
M.D. 26
C. 26
M.D. 14
M.D. 9
2
C. 8
M.D. 6
C. 5

example (Table 7.5.1.), the loss experience for wheat at 60 percent coverage results in a premium of 1.7 bushels per acre, which is applied to all insured acreage. Note that the premium rate $\frac{\text{Premium}}{\text{Coverage}} \times 100$ varies by soil class and would also vary as a function of stubble/fallow cropping (not illustrated).

The risk area insurance record of AHCIC, as measured by L/P ratios $\frac{\text{Loss}}{\text{Premium}} \times 100$ over all crops for the period 1965-84, is presented in Table 7.5.2. Clearly, there is substantial variability in the ratios between risk areas, with some showing cumulative deficits and others with cumulative reserves. There are several possible explanations for this situation. First, it could be assumed that the record of experience does not cover a long enough time period and that indemnities will equal premiums over the long run in all risk areas. In this case, no corrective action would be required. Second, it is known that the coverage bonuses and premium discounts have been substantial over the period and that premium structure may simply have been inadequate to cover the liabilities to which the insurance scheme has been exposed (i.e. underestimates the risks). This would require modifications to the coverage and premium adjustment mechanism to increase the premium revenues to levels sufficient to cover the risk. Third, it is probable that program provisions cause actual loss costs to be poor indicators of the true insurance risks faced by the AHCIC. Adjustments to program components and/or use of the normal curve approach to ratemaking could remedy the situation. In any event, if any of the above factors continue to cause long term imbalances in the insurance program, there is potential for cross-subsidization from those areas with accumulated reserves to risk areas with accumulated deficits.

Within risk areas, the current risk area concept does not fully reflect differences among soil classes and cropping practices. This is illustrated by a comparison of Tables 7.5.1 and 7.5.3, in which Table 7.5.3 calculates premiums over soil classes where the underlying assumption is that the risk in the risk area and therefore, the premium

TABLE 7.5.1.

Table 7.5.1

Example Calculation For Converting Risk Into Premiums
By The AHCIC Method, 60% Coverage, Wheat

Soil Class	Average Yield (bu/ac)	60% Coverage (bu/ac)	Loss Costs (bu/ac)	Premium (bu/ac)	Premium[a] Rate
B	33	19.8	1.5	1.7	8.59%
C	30	18.0	2.0	1.7	9.44%
D	27	16.2	1.7	1.7	10.49%
E	25	15.0	1.6	1.7	11.33%
Averages	28.75	17.25	1.7	1.7	9.86%

[a] Premium Rate = $\frac{\text{Premium}}{\text{Coverage}} \times 100$

Table 7.5.2

Cumulative Experience For Grains, Oilseeds, Pedigreed And Specialty Crops (1965-84 Inclusive For Basic Crop, 1973-84 Inclusive For Hail Endorsement)

Risk Area	Basic Crop L/P Ratio	Hail Endorsement L/P Ratio	Total L/P Ratio
1	236.42%	73.8%	177.71
2	130.74	99.09	121.53
3	92.10	109.01	96.58
4	96.57	117.87	103.33
5	115.77	64.93	92.69
6	73.43	97.88	85.93
7	102.11	86.32	96.95
8	86.71	114.17	94.33
9	67.45	82.49	69.41
10	77.95	75.54	77.45
11	82.28	48.20	78.59
12	92.88	72.14	88.25
13	65.28	55.06	63.47
14	65.94	60.00	65.51
Province	102.18	87.23	97.61

Source: AHCIC Annual Report, March 31, 1985.

Table 7.5.3

Example Calculation For Converting Risk Into Premiums In A Homogeneous Risk Area, 60% Coverage, Wheat

Soil Class	Average Yield (bu/ac)	60% Coverage (bu/ac)	Loss Costs (bu/ac)	Premium Rate[a]	Premium (bu/ac)
B	33	19.8	1.5	9.86%	1.95
C	30	18.0	2.0	9.86%	1.77
D	27	16.2	1.7	9.86%	1.60
E	25	15.0	1.6	9.86%	1.48
Averages	28.75	17.25	1.7	9.86%	1.70

[a] Premium Rate = $\frac{\text{Premium}}{\text{Coverage}} \times 100$

rate, is constant. Clearly, the underlying assumption in AHCIC premium calculations is that the premium rate increases on lower soil class acreages and the risk is not uniform in the risk area. This is indicated by the higher premium rates on lower soil classes in Table 7.5.1.

The validity of the AHCIC assumption that lower soil classes are subject to greater risk of loss and higher loss costs has been briefly examined. It is found that, while yield CV's increase progressively from higher to lower soil classes, the absolute size of the standard deviation increases from lower to higher soil classes (Table 7.5.4). This condition is a fundamental requirement in an insurance scheme that does not have inherent adverse selectivity due to differential expectations of loss[2]. As a result, it is possible that AHCIC risk assumptions will be questioned by further research and that premiums on lower soil classes may actually cross-subsidize indemnities on higher soil classes.

A related issue is the extent to which counties or municipalities within AHCIC risk areas are homogeneous for risk. Unfortunately, recent analysis undertaken by Alberta Agriculture[3] places what is regarded here as undue emphasis on yield homogeneity, aggregated across soil classes, rather than risk homogeneity, i.e. the pattern of yield variation over time. Their findings suggest a major redefinition of risk areas is required, which is not surprising in view of the fact that county/ municipality yield averages are derived from different soil class distributions and should be expected to vary substantially.

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[2] See Halcrow, H.G. "Actuarial Structures for Crop Insurance". Journal of Farm Economics Vol. 31(3):418.443, 1949, p. 425.

[3] Susko, R. "Homogeneity of Risk in Alberta Crop Insurance Risk Areas", Alberta Agriculture, Production and Resource Economics Branch, Edmonton, August 1986.

Table 7.5.4

Provincial Yields, Coefficients Of Variation And Standard Deviations Of Wheat And Barley Yields By Soil Class, Alberta, 1973-84

	Soil Class					
	A	B	C	D	E	F
Wheat Fallow						
Yield	40.5	36.6	32.0	26.8	22.4	19.8
CV	33.6	32.3	37.4	39.5	43.1	51.2
SD	13.61	11.82	11.97	10.59	9.65	10.14
Wheat Stubble						
Yield	37.8	31.1	27.6	21.8	16.1	14.5
CV	38.5	41.6	45.3	53.8	63.5	66.5
SD	14.55	12.94	12.53	11.73	10.22	9.64
Barley Fallow						
Yield	57.1	53.6	45.9	39.3	34.5	31.6
CV	36.9	36.8	45.3	51.3	56.2	62.2
SD	21.07	19.72	20.79	20.16	19.38	19.66
Barley Stubble						
Yield	54.4	47.3	40.5	34.3	30.3	23.5
CV	35.7	42.0	48.7	56.1	62.1	71.1
SD	19.42	19.87	19.72	19.24	18.82	16.71

Source: McConnell, R.D. "An Analysis of the Methodology Used by the Alberta Hail and Crop Insurance Corporation to Calculate Premiums aAnd Coverage Levels by Soil Class". Alberta Agriculture, Planning Secretariat. Crop Insurance Review, 1986. Tables 1 and 2.

For the purposes of illustration, the pattern of yield variation over time among counties in Risk Area 1 has been segregated by soil type. As shown in Tables 7.5.5 and 7.5.6, significant positive correlations in yield pattern were observed between certain soil classes in certain counties and not between others. This suggests that risk areas are characterized by variable responses of crops on different soil class lands to natural factors and as such, reflect the different risks of yield loss on these acreages. Most importantly, it is suggested that the yield experience on one or two soil classes within a county when aggregated over all soil classss, may lead to the false conclusion that the risk area is fundamentally heterogeneous with respect to risk (e.g. note correlation coefficients for Soil Class D in M31, compared to other soil classes).

In summary, the unfavorable loss-to-premiums ratios of cumulative insurance experience in some risk areas points to the need for adjustment in the premium and/or coverage schedules in those areas. Clearly, these adjustments should be made before risk area redefinitions are considered.

There appears to be a variable yield response by crops on different soil class acreages to insurable risks. This is a situation which requires further investigation if further refinements are to be made in the risk area concept.

Finally, research in Manitoba has indicated that the regional risk area concept may be too broad by itself, to accurately reflect the risk faced by individual insured farmers. A scheme under examination would assess risk at several levels of regional aggregation such as the province as a whole, the region and the local area. This approach, in which the total risk would be summed by components, may have some merit for Alberta.

7.6 Soil types and crop insurance

The AHCIC insurance program recognizes that different acreas have different crop yield capabilities within risk areas. The purpose of

Table 7.5.5

Comparison Of Yield And Variable Correlation For Spring Wheat Yields, Risk Area 1, Alberta, 1973-84

				Yield Variance Correlation Coefficients		
	Municipality	Yield (bu/ac)	CV	M6	M9	M26
All Soil Classes	M6	29.4	41.7			
	M9	24.9	52.9	79.8[a]		
	M26	29.4	37.6	79.6[a]	83.1[a]	
	M31	37.2	31.3	76.5	57.3	84.1
Soil Class B	M6	33.5	24.7			
	M9	28.6	39.3	59.8		
	M26	32.0	19.8	80.3[a]	75.3[a]	
	M31	37.5	15.72	75.4[a]	73.7[a]	79.8[a]
Soil Class C	M6	29.1	26.1			
	M9	25.9	42.3	77.0[a]		
	M26	27.3	22.1	82.2[a]	84.5[a]	
	M31	36.0	17.5	73.6	57.5	79.6[a]
Soil Class D	M6	23.8	39.0			
	M9	23.8	44.2	71.4[a]		
	M26	23.5	27.4	73.1[a]	89.3[a]	
	M31	29.9	29.9	38.8	24.2	48.6

[a] Significant positive correlation with 95% confidence.

Sources: Compiled from data in McConnell, R.D. "An Analysis of the Methodology Used by the Alberta Hail and Crop Insurance Corporation to Calculate Premiums and Coverage Levels by Soil Class. Edmonton, Alberta Agriculture, Planning Secretariat. Crop Insurance Review, 1986, Tables 1 and 2; and Susko, R. "Homogeneity of Risk in Alberta Crop Insurance Risk Areas". Edmonton, Alberta Agriculture. Production and Resource Economics Branch. Crop Insurance Review, August, 1986.

Table 7.5.6

Statistical Correlations Of Yield By Municipality And Soil Class, Risk Area 1, Alberta, 1973-84

Soil Class - Municipality	BM6	BM9	BM26	BM31	CM6	CM9	CM26	CM31	DM6	DM9	DM26
BM6											
BM9	59.8[a]										
BM26	80.3[a]	75.3									
BM31	75.4	73.7	79.8								
CM6	91.6	74.3	82.6	75.5							
CM9	69.0	59.9[a]	74.3	51.7[a]	77.0						
CM26	76.4	70.5	95.6	76.8	82.2	84.5					
CM31	71.5	78.1	83.6	96.9	73.6	57.5[a]	79.6				
DM6	86.8	76.5	72.7	70.2	93.4	69.4	69.4	66.1			
DM9	74.9	61.5	83.4	47.1[a]	82.5	91.8	88.3	53.8[a]	71.4		
CM26	73.9	71.2	90.3	75.6	85.7	89.7	97.5	78.9	73.1	89.3	
DM31	35.5[a]	69.6[a]	41.2[a]	79.8[a]	43.0[a]	49.3[a]	48.4[a]	79.5	38.8[a]	24.2[a]	48.6[a]

[a] Positive correlation at 95% confidence.

Others not significant.

Sources: Compiled from data in McConnell, R.D. "An Analysis of the Methodology Used by the Alberta Hail and Crop Insurance Corporation to Calculate Premiums and Coverage Levels by Soil Class. Edmonton, Alberta Agriculture, Planning Secretariat. Crop Insurance Review, 1986, Tables 1 and 2; and Susko, R. "Homogeneity of Risk in Alberta Crop Insurance Risk Areas". Edmonton, Alberta Agriculture. Production and Resource Economics Branch. Crop Insurance Review, August, 1986.

identifying insured acres by soil class is to align yield averages and insurance coverages with yield expectations on these acreages. The soil classification system is based on the land resource productivity ratings of the Alberta Department of Municipal Affairs. Municipal farmland assessments are available for each quarter section of arable acreage in Alberta, employing a set of nine resource capability factors (Table 7.6.1). These quarter section assessments are aggregated for insurance purposes into average section productivity ratings between 0 and 100 by AHCIC. The section ratings are broken down into several ranges which correspond to AHCIC Soil Classes A to F (Table 7.6.2). In turn, the soil classes are assigned yield factors in which Soil Class A is given a 100 percent rating and B-90 percent, C-80 percent, D-70 percent, E-60 percent and F-50 percent of the Soil Class A yield.

The record of the AHCIC soil classification system may be illustrated by an examination of average wheat and barley yields by soil type among Alberta insurance participants from 1973-4 (Tables 7.6.3 and 7.6.4). As summarized in Table 7.6.5, the province-wide yield record substantiates AHCIC's rationale for assigning differential coverage by soil class.

While the soil class rating is indicated to be roughly representative of fallow and stubble yield experiences across the province in several of the classes, individual risk area experience is quite variable. The reliability of the actual yield results is compromised by small data samples but suggests that the soil class distinction is meaningless in several risk areas. For example, stubble and fallow barley yields in Risk Areas 1, 7 and 8 are virtually identical or opposite to expected for Soil Classes D and E (Table 7.6.4). Similarly, differences in stubble wheat yields in Risk Areas 2, 5, and 8 for Soil Classes D and E and in Risk Areas 6 and 10 for Soil Classes A and B are negligible (Table 7.6.3).

Table 7.6.1

Factors Used By The Alberta Department Of Municipal Affairs To Calculate Combined Productivity Ratings For Arable, Dryland Agriculture.

Factors	
(i)	Soil Group
(ii)	Surface Depth
(iii)	Subsoil
(iv)	Texture
(v)	Topography
(vi)	Stones
(vii)	Trees
(viii)	Miscellaneous
(ix)	Agro-Climate

Source: Assessment Research and Systems, Municipal Affairs, Assessment Manual 1979, First Edition, Section 7.64.011, In Hiley, J. and Dr. W. Pettapiece, "Evaluation of the Soil Class, Categories Employed by Alberta Hail and Crop Insurance Corporation". Agriculture Canada, Soil Survey Unit Edmonton. August, 1986, Appendix I, p. 17

Table 7.6.2

Relation Between Weighted And Aggregated Municipal Productivity Ratings (Section Level) And AHCIC Soil Classes

Aggregated Municipal Ratings x 100	AHCIC Soil Class
79 to 100%	A
58 to 78%	B
41 to 57%	C
28 to 40%	D
16 to 27%	E
15% or less	F

Source: Hiley, J. and Dr. W. Pettapiece. "Evaluation of the Soil Class Categories Employed by Alberta Hail and Crop Insurance Corporation." Agriculture Canada, Soil Survey Unit, Edmonton, August, 1986, p. 2.

Table 7.6.3

Average Wheat Yields By Risk Area, Soil Type And Management Practice, Alberta, 1973-84

Risk Area	Fallow Yields (bu/ac), Soil Type					
	A	B	C	D	E	F
1	-	34.2	30.0	23.4	19.8	-
2	-	32.3	29.8	27.2	24.8	-
3	-	-	29.9	26.3	23.2	20.0
4	-	39.1	32.2	27.8	25.0	22.4
5	48.3	39.4	36.2	32.3	25.7	-
6	44.3	43.5	36.8	32.7	38.2[a]	-
7	41.8	37.7	34.8	29.8	32.3[a]	-
8	37.1	34.0	31.8	29.2	27.9	-
9	-	33.2	31.2	28.5	25.5	-
10	37.5	36.4	32.8	30.6	33.5	-
11	-	32.7	29.8	28.2	25.7	-
12	-	-	27.0	24.7	21.0	17.9
13	-	-	31.6[a]	28.0	29.1[a]	-
14	-	-	26.8[a]	27.0	21.7	-
Province	40.5	36.6	32.0	26.8	22.4	19.8

Table 7.6.3 (continued)

	Stubble Yields (bu/ac), Soil Type					
1	-	26.8	24.5	20.0	18.3	-
2	-	24.1	21.6	20.4	19.6	-
3	-	-	21.4	18.0	14.8	14.2
4	-	30.9	25.3	21.3	17.4	15.9
5	38.1	31.6	29.9	26.5	26.1	-
6	43.9	43.9	34.9	30.0	30.7[a]	-
7	40.9	38.1	34.9	26.9	33.0[a]	-
8	33.3	31.0	28.0	25.0	25.4	-
9	-	34.2	30.5	26.8	24.2[a]	-
10	34.5	35.2	33.5	28.2	30.7[a]	-
11	-	31.1	27.7	26.0	21.2	-
12	-	-	19.0	16.8	12.9	13.3
13	-	-	26.6[a]	27.1	25.6[a]	-
14	-	-	-	24.9	20.0	-
Provinces	37.8	31.1	27.6	21.8	16.1	14.5

Source: McConnell, R.D. "An Analysis of the Methodology Used by the Alberta Hail and Crop Insurance Corporation to Calculate Premiums and Coverage Levels". Edmonton, Alberta Agriculture, Planning Secretariat. Crop Insurance Review, 1986. Tables 1 and 2.

[a] Number of observations < 50.

Table 7.6.4

Average Barley Yields By Risk Area, Soil Type And Management Practice, Alberta, 1973-84

Risk Area	Fallow Yields (bu/ac) Soil Type A	B	C	D	E	F
1	-	53.0	48.3	39.3	40.6	-
2	-	52.1	46.6	41.1	36.7	-
3	-	-	50.8	41.8	35.8	32.0
4	-	58.6	49.2	40.0	38.2	33.6[a]
5	63.0	57.8	54.5	50.4	47.1	-
6	60.7	56.9	50.0	47.9	45.9[a]	-
7	59.2	48.5	43.4	38.9	42.3	-
8	47.5	48.6	46.3	41.5	44.1	-
9	-	47.0	42.2	37.0	31.8	-
10	47.2	48.1	41.3	36.5	37.7	-
11	-	43.0	35.6	32.6	30.4	-
12	-	-	38.2	37.3	30.0	27.6[a]
13	-	-	4.0	34.7	32.2	-
14	-	-	32.0[a]	33.1	28.9	-
Province	57.1	53.6	45.9	39.3	34.5	31.6

Table 7.6.4 (continued)

Risk Area	Stubble Yields (bu/ac) Soil Type A	B	C	D	E	F
1	-	43.0	42.0	33.3	34.3	-
2	-	38.1	34.2	33.0	31.7	-
3	-	-	35.7	29.4	26.1	21.0[a]
4	-	46.4	39.3	31.2	28.6	24.0[a]
5	51.6	50.3	46.1	44.1	39.2	-
6	57.4	54.3	47.8	44.3	45.9	-
7	51.6	44.8	41.3	35.9	34.6	-
8	46.2	42.5	38.8	34.3	37.5	-
9	-	41.6	39.6	34.9	36.7	-
10	43.5	46.0	40.5	37.1	34.3	-
11	-	37.8	32.4	31.0	27.1	-
12	-	-	29.2	27.4	20.7	26.4[a]
13	-	-	38.6	32.1	30.3	-
14	-	-	30.7[a]	32.9	26.8	-
Provinces	54.4	47.3	40.5	34.3	30.3	23.5

[a] Number of observations < 50.

Source: McConnell, R.D. "An Analysis of the Methodology Used by the Alberta Hail and Crop Insurance Corporation to Calculate Premiums And Coverage Levels". Edmonton, Alberta Agriculture, Planning Secretariat. Crop Insurance Review, 1986. Tables 1 and 2.

Table 7.6.5

Soil Type Average Yields As A Percent Of Soil Class A Yields, Wheat And Barley, Alberta, 1973-84

	Provincial Average Yields As A Percent Of Soil Type "A" Yields					
Crop	A	B	C	D	E	F
Wheat-Fallow	100	90	79	66	55	49
Wheat-Stubble	100	82	73	58	43	38
Barley-Fallow	100	94	80	69	60	55
Barley-Stubble	100	87	74	63	56	43

Source: McConnell, R.D. "An Analysis of the Methodology Used by the Alberta Hail and Crop Insurance Corporation to Calculate Premiums and Coverage Levels". Edmonton, Alberta Agriculture, Planning Secretariat. Crop Insurance Review, 1986, Tables 1 and 2.

The lack of verification of many of the assumed yield differences between AHCIC soil classes at the risk area level may reflect real or perceptual problems with soil classification. The real concerns reflect the probability that there may be no yield differences between some soil classes in some risk areas e.g. Risk Area 10. It also appears that yield differentials may not apply consistently to different crops or fallow and stubble crop practices. The existence of these factors would result in inequitable insurance coverage and premium rates on misclassified acreages.

Perceived issues may relate first to the dangers of using small sample sizes of observations to establish yield/soil class relationships and second, to the methodology involved in developing AHCIC yield ratings. With respect to this latter point, the averaging of municipal productivity rating data has clearly resulted in the lumping of soil classes within quarter sections into section ratings which may mask true productivity details but not threaten the overall yield rating structure. As well, the conversion of section productivity ratings into yield levels appears arbitrary and may not stand up to empirical analysis.

The need for more and better risk area information about soil capabilities and crop yield expectations is obvious, before informed adjustments can be made to the existing rating system. One particular focus would be to increase the level of detail to the quarter section level to minimize the potential for misclassification of insured acreages. A second area of improvement would be to investigate and incorporate the effect of new management practices, technology improvements and increased inputs on yield experience. Finally, the potential for individual coverage to alleviate soil class rating problems should not be overlooked.

7.7 Stubble And Fallow Cropping Practices

Crop yields on fallow fields have historically exceeded yields on stubble cropped fields in Alberta. The AHCIC program, consequently, applies a yield adjustment factor across all soil types which results in a lower coverage level on stubble cropped acreage.

The adjustment factor used by AHCIC is the differential (in percent) between immediately preceding five year averages of yields on fallow and stubble fields. Each differential is specific for crop and risk area but is applied over all soil types seeded to a particular crop within a risk area.

A statistical analysis by Alberta Agriculture[4], using 5-year moving averages over the 1973-84 period indicates that differential fallow and stubble fields are a reality in Alberta. The simple 12- year average (1973-84) (Table 7.7.1) indicates that average stubble/fallow ratio (x 100) for the province are 90.88 for wheat and 92.66 for barley yields. The yield differentials between stubble and fallow crops vary from 71.88 to 94.75 depending on soil class, at the provincial level. Fallow/stubble yield differences among and within risk areas show variability. As shown in Table 7.7.2, wheat stubble yields have matched or exceeded average fallow yields over the period 1973-84 in soil classes in Risk Areas 5, 6, 7, 9 and 10. Stubble barley yields approach fallow yields for several soil classes in several risk areas (e.g. 6, 7, 8, 10, 13 and 14). In contrast, average stubble yields are as low as 65 percent of fallow yields in other soil classsss and risk areas. On average, however, the differentials used by AHCIC are consistently larger than historical yield experience indicates (Table 7.7.3). The use of larger fallow/stubble yield differentials by AHCIC averaged across soil classes within risk areas, clearly creates an institutional bias against appropriate insurance coverage for stubble crops in general and for particular soil classes in specific. This might be expected to be a contentious point in principle, particularly for soil classes in those risk areas where stubble yields have matched or exceeded fallow yields over the period 1973-84.

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[4] Heikkila' R. "Coverage Levels on Summerfallow and Stubble Fields", Edmonton, Alberta Agriculture, 1986.

Table 7.7.1

Average Yields On Fallow And Stubble Fields Wheat And Barley, Provincial Averages, Alberta, 1973-84

	Yields By Soil Type (bu/ac)						
Crop	A	B	C	D	E	F	Weighted Averages (All Soil Types)
Wheat-Fallow	40.5	36.6	32.0	26.8	22.4	19.8	29.6
Wheat-Stubble	37.8	31.1	27.6	21.8	16.1	14.5	26.9
$\frac{\text{Stubble}}{\text{Fallow}}$ x 100 (%)	93.33	84.97	86.25	81.34	71.88	73.23	90.88
Barley-Fallow	57.1	53.6	45.9	39.3	34.5	31.6	46.3
Barley-Stubble	54.4	47.3	40.5	34.3	30.3	23.5	42.9
$\frac{\text{Stubble}}{\text{Fallow}}$ x 100 (%)	94.75	88.25	88.24	87.28	87.83	74.37	92.66

Source: McConnell, R.D. "An Analysis of the Methodology Used by the Alberta Hail and Crop Insurance Corporation to Calculate Premiums and Coverage Levels by Soil Class". Edmonton, Alberta Agriculture, Planning Secretariat. Crop Insurance Review, 1986. Tables 1 and 2.)

Table 7.7.2

Average Yield Differentials On Fallow And Stubble Fields Wheat And Barley By Risk Area, Alberta 1973-84

Wheat
Differential By Soil Class

$(\frac{\text{Stubble Yield}}{\text{Fallow Yield}} \times 100)$

Risk Area	A	B	C	D	E	F
1	-	78.36	81.67	85.47	92.42	-
2	-	74.61	72.48	75.00	79.03	-
3	-	-	71.57	68.44	63.79	71.00
4	-	79.03	78.57	76.62	69.60	70.98
5	78.88	80.20	82.60	82.04	101.56	-
6	99.10	100.92	94.84	91.74	80.37[a]	-
7	97.85	101.06	100.29	90.27	102.17[a]	-
8	89.76	91.18	88.05	85.62	91.04	-
9	-	103.01	97.76	94.04	94.90[a]	-
10	92.00	96.70	102.13	92.16	91.64[a]	-
11	-	95.11	92.95	92.20	82.49	-
12	-	-	70.37	68.02	61.43	74.30
13	-	-	99.25[a]	96.79	87.97[a]	-
14	-	-	-	92.22	92.17	-
Province	93.33	84.97	86.25	81.34	71.88	73.23

Table 7.7.2 (continued)

Barley
Differential By Soil Class

$\left(\frac{\text{Stubble Yield}}{\text{Fallow Yield}} \times 100\right)$

Risk Area	A	B	C	D	E	F
1	-	81.13	86.96	84.73	84.49	-
2	-	73.13	73.39	80.29	86.38	-
3	-	-	70.28	70.33	68.32	65.63[a]
4	-	79.18	79.88	78.00	74.87	71.43[a]
5	81.90	87.02	84.59	87.50	82.23	-
6	94.56	95.43	95.60	92.48	100.00[a]	-
7	93.48	92.37	95.16	92.29	81.80	-
8	97.26	97.45	83.80	82.65	85.03	-
9	-	88.51	93.84	94.32	115.41	-
10	92.16	95.63	98.06	101.64	90.98	-
11	-	87.91	91.01	95.09	89.14	-
12	-	-	76.44	73.46	69.00	95.65[a]
13	-	-	96.50	92.51	94.10	-
14	-	-	95.94[a]	99.40	92.73	-
Provinces	94.75	88.25	87.28	87.83	74.37	92.66

[a] Number of observations < 50.

Source: Compiled from data in McConnell, R.D. "An Analysis of the Methodology Used by the Alberta Hail and Crop Insurance Corporation to Calculate Premiums and Coverage Levels by Soil Class". Edmonton, Alberta Agriculture, Planning Secretariat. Crop Insurance Review, 1986, Tables 1 and 2.

Table 7.7.3

Comparison Of Actual Five-Year Average Yield Differentials
Between Stubble And Fallow And AHCIC Yield Differentials
By Risk Area All Soil Classes Wheat and Barley, Alberta, 1973-84

Yield Differentials $\frac{\text{Stubble Yield}}{\text{Fallow Yield}}$ x 100

	Wheat			Barley	
Risk Area	5-Year Average Differential	AHCIC Differential	Risk Area	5-Year Average Differential	AHCIC Differential
1	84.2	69.4	1	86.2	75.5
2	77.1	68.9	2	77.6	70.6
3	67.5	66.5	3	70.5	70.6
4	75.0	66.9	4	77.2	72.5
5	82.2	71.6	5	87.3	75.6
6	95.9	77.0	6	94.7	78.9
7	95.4	77.1	7	93.4	79.0
8	84.9	71.4	8	83.5	74.5
9	93.5	77.6	9	92.8	75.9
10	97.8	77.6	10	97.3	75.7
11	91.1	77.6	11	92.2	73.7
12	64.3	60.1	12	71.8	70.6
13	98.7	78.4	13	92.2	76.4
14	88.8	77.4	14	94.4	75.6

Source: Hiekkela, R. "Coverage Levels On Summerfallow And Stubble Fields". Edmonton, Alberta Agriculture. Production and Resource Economics Branch. Crop Insurances Review, 1986. Table 1.

The magnitude of the institutional bias against stubble crop coverage on individual farms is probably masked or underestimated by the soil classification system which averages quarter section productivity ratings at the section level. This suggests that particular farming operations on high yielding stubble acreages in risk areas with high yield variability among soil classes may only have access to insurance coverages based on average yields well below their yield expectations.

In view of the substantial differences in actual stubble/fallow yield differentials compared to those used by AHCIC, the method used by the corporation appears to need modification to ensure that coverage levels on stubble acreages better reflect actual yield expectations. Where the stubble/fallow yield differences may be negligible for certain soil classes within risk areas, the elimination of the risk area average differential could be warranted. It should be noted that adoption of individual yield coverage would obliterate this problem.

Finally, the quality of the yield data requires improvement. Further information on the inputs and farming practices associated with above average stubble yields would provide a more realistic basis for offering stubble yield coverage to farmers and get around the problem of using small and mixed soil class samples of historical yields.

7.8 Coverage Adjustments, Premium Discounts And Other Special Adjustments

There are two fundamental ways in which violations or departures from the basic actuarial requirements of a crop insurance program may be met:

- By redefining the classes and categories of data in such a way that homogeneity is achieved within a given crop insurance risk area. For example, if the soil types within a given risk area are widely different, then the original risk area should be sub-divided into smaller risk areas each of which contain a homogeneous soil class. Each redefined risk area would have its own basic coverages and premium rates.

- The other method of coping with considerable diversity within a given risk area is to develop special adjustments to the basic coverages and premium rates established for the risk area, e.g., premium discounts and surcharges, positive and negative coverage adjustments, special soil adjustment indices.

In theory, it is best to redefine the risk area in such a way that like variables (management, soil, cultural practices) are grouped together in homogeneous risk areas or classes, each with its own basic coverages and premium rates.

In practice, however, it is not always feasible to meet all the prior conditions and assumptions underlying a homogeneous risk area and, accordingly, special adjustments to basic coverages and premium rates are used to correct or compensate for the anomalies.

The specific objectives of the adjustments are many: to establish greater equity and fairness among the insured farmers; to eliminate adverse selectivity in the program by surtaxing those who gain undue benefits from the program, and bonusing those who are treated unfairly by the basic coverage levels and premium rates; to correct or to compensate for basic deficiencies in the original data used to establish the basic coverages and premium rates; to distinguish between farmers of superior management ability and those insured farmers of lesser management abilities; to establish greater equity in coverage levels and premium rates among risk areas; in general, to correct for any major deficiencies in the basic actuarial requirements of a financially sound, efficient and equitable crop insurance program within and among the designated risk areas in the province.

The consequences of any departures from the basic coverage levels and premiums by way of special adjustments should be known. Will the special adjustments add to the overall cost of the program and, if so, who should bear the cost of the increased premium rates? Will the special adjustments, when used to correct some special problem or anomaly, create new biases and other problems in the program and, if so, who will gain unduly or who will be affected adversely by the special adjustment? In general, are the effects of the special adjustments consistent with the basic requirements and principles of an actuarially sound crop insurance program?

When the results of the good experience coverage adjustments and premium discounts for the AHCIC program are examined, it appears that the bulk of the adjustments are skewed in one direction i.e. the coverages adjusted above the basic coverage and the premium discounts below the basic premium rates include, by far, the largest proportion of the insured farmers. From an actuarial point of view, one would expect the positive adjustments to be balancad by negative adjustments around the basic coverage levels and premium rates.

Three factors appear to have caused these results:

- The good experience coverage level adjustments and premium discounts have been used, in large part, to reflect trend yield increases not fully reflected in the ten-year moving average base used for the calculation of the basic coverage levels.
- The good experience adjustment has been used, in part, to bonus the above average farm managers;
- Premium discounts, used as part of the good experience adjustment process, can only vary below the basic premium rate; there is no provision for a premium surcharge.

These factors appear to have caused the good experience coverage adjustments and premium discounts to be skewed predominantly in one direction.

In general, it appears that the good experience adjustment mechanism is suffering from an overload" of functions i.e. an attempt is being made to correct or compensate for too many anomalies in any given risk area, e.g. variation in soil types, cultural practices, yield trends, deficiencies in basic data used to calculate basic yields and coverages, and varying management abilities at the individual farm level.

The "overload" problem may have to be corrected by several measures:

- Correcting deficiencies in the basic data rather than using special adjustments to correct the difficulties, e.g., better data on soil types, cultural practices.

- Developing some method to have the trend yield increases reflected in the basic data used for the calculation of basic coverages and premium rates rather than using the special adjustment mechanism to correct the problem.

- Provision for individual coverage for either (a) the superior farm managers or (b) the poor farm managers, or both.

- Permitting the premium adjustments to vary above as well as below the basic premium rate level.

7.9 Price Options

The Alberta Hail and Crop Insurance Program provides farmers with considerable flexibility in the options available to them under the insurance program. The general objective of this flexibility is to enable the individual producer to adjust the insurance program to suit his own preferences and requirements.

Two of those important options under the AHCIC program include: yield coverage level; and price options relating to those yield coverage levels.

Under the AHCIC program, farmers have the option of insuring at 60 percent and 70 percent of the moving average yield of the previous ten years. In addition to the yield coverage level, farmers can choose from a high or a low price option.

In setting the high price option, the AHCIC has attempted to set the price high enough which when coupled with the 70 percent yield coverage level would provide the insured farmer with as much protection as possible for his cash costs of operation. In general, the high price option was not set, as a matter of principle or policy, above the expected market price for the grain in question.

An analysis was undertaken of six major crops in Alberta, to determine the relationship which has existed between the various price options under the crop insurance program and the prevailing market prices for those crops.

The fact that the high price option under the AHCIC program has exceeded the prevailing market price for several crops at various times during past years represents a flashing amber light--there is serious danger ahead. The danger may be illustrated in 1986 when it will be noted the AHCIC high price option was set at $105 per tonne for No. 2 barley. In April 1986, tha CWB initial price for No. 1 feed barley was set at $80 per tonne for 1986/87 (basis in store Thunder Bay or Vancouver).

The danger will become aven more evident in 1987 when the full effects of the EC-US grain subsidy war will almost certainly be reflected in even lower market prices for grain.

It must be emphasized that crop insurance is basically a yield insurance program, not a price or income support policy.

It follows that crop insurance is not to become a "price insurance" program, the high price option should never exceed the market price of the grain being insured. If the "high price" option is set well above the prevailing market price of the insured grain two major consequences can occur: there is an "incentive" to abuse the crop insurance program; the crop insurance corporation takes on the responsibility of a price insurance program for which it was never designed.

It is clear that the AHCIC cannot become involved in a "price insurance" program if it is not to be wrecked by grain price problems in general. As serious as the price problem is, it is not a problem which can be resolved through crop insurance. Other policies must be developed to cope with the general price and income problems in agriculture.

7.10 Spot-Loss Insurance

Farmers have frequently pressed for spot-loss insurance and for some form of field insurance.

It is argued that a farmer can lose an entire field of wheat through some natural hazard and still not receive an indemnity because the total crop of wheat, when harvested, exceeds the total coverage value set for the crop. It is advocated, accordingly, that some form of field insurance should be made available to the farmer.

Other farmers indicate that they can lose half of their potentially bumper crops through one type of hazard or another and still not claim a crop insurance payment. In this case, the farmers advocate some form of spot-loss insurance comparable to hail insurance; they want insurance on the "top portion" of the yield--the portion which includes the "profit margin".

In general, farmers wonder why the spot-loss aspect of hail insurance cannot be extended to separate fields or other specific perils. Hail damage under a hail insurance program can be assessed for payment purposes on separate fields or on the "top portion" of the yield.

It is to be noted that the hail endorsement insurance included as a part of the all-risk crop insurance program in Alberta is not without an additional cost. In the case of the AHCIC, the rate is set at 40 percent of the corresponding rate for regular hail insurance in Alberta. Studies have shown that over a long period of time, approximately 50 percent of the premium dollar for hail insurance is generally required by the insurance companies to pay operating expenses, commissions, overhead and other similar expenses.

The task of setting a proper or actuarially sound premium rate for hail insurance is no less difficult than that for the all-risk type of crop insurance program. Many years of experience for a given area are required before any reasonable data can be used to establish probability of loss through hail damage for the area.

The task of measuring damage and of administering a program related to a peril-specific type of insurance program is generally difficult and costly. The experience with hail insurance indicates that measurement of loss is very difficult for the following reasons:

- Hail crop damage itself depends on a number of associated factors such as stage of maturity of the crop, current and subsequent weather conditions, the residual effects of earlier damage due to other natural hazards such as insects or plant rust.

- Because there are no specific "rules-of-thumb" or easily measurable standards which can be used in measuring hail crop damage, there can be wide variations in the measurement of hail damage among the assessed themselves, unless the assessors are extremely well trained and have considerable experience in the field.

- The costs of administering a hail insurance program are far from insignificant. Following a widespread hail storm, a large group of prior trained assessors must be available on short notice.

Each field site must be visited and assessed before the farmer is permitted to do anything with the damaged crop or to work the land. If the number of well trained assessors is not sufficient to cope with the immediate work to be done following a massive and widespread hail storm, costly delays and antagonized farmers result.

All of these difficulties associated with the actuarial requirements, measurement of damage, costs and administrative concerns relating to hail insurance are well known but they are cited here to illustrate the additional costs and administrative burdens associated with any type of peril-specific type of insurance.

Given the experience with hail insurance, what are the possibilities of extending spot-loss insurance to other single perils, or of developing separate field coverage insurance?

While there is little or no previous practical experience that one can draw on to adequately address the question, one can list a number of difficulties that would almost certainly be encountered in the attempt to establish further spot-loss or field insurance programs.

- Actuarial foundation: in the case of spot-loss insurance for single perils (with the exception of hail insurance) there are no reliable data available which could be used to establish an actuarial base for the setting of appropriate premium rates. The same limitation holds for field insurance.

- Even if the actuarial data was available for the setting of premium rates and coverage levels for spot-loss and separate field insurance, the administrative costs would multiply, likely at an increasing rate. It is questionable whether such extra costs when loaded into the premium rate would be feasible or acceptable to farmers.

- In the case of separate field insurance, it would not likely be practical in most cases to have the crop from each field placed in a separate bin; a pre-harvest assessment would have to be undertaken for each field for several thousands of farmers.

- As each separate risk and each separate field was removed from the more comprehensive all-risk program, the pure premium rates would escalate as greater and more frequent indemnity payments were made on each separate peril and field. It must be recognized that there is a "pooling of risk" within the more comprehensive all-risk insurance program that tends to keep the total premium rate well below the aggregate total premiums that would result from separate peril and field insurance.

- Practical experience indicates that there can be and frequently are an intricate and interdependent relationship among the various perils or natural hazards. Drought, while damaging in itself, can create side-effects or prior conditions for other natural hazards such as grasshoppers or plant diseases. Flooding can damage or destroy crops directly but there can be associated side effects in the form of sprouted crops, loss of quality, waterfowl damage and delayed harvesting. In practice, it would be extremely difficult to separate out individual perils for spot-loss insurance purposes.

Unfortunately, there does not appear to be any sound actuarial basis, at a premium rate and an administrative cost that would permit the extension of spot-loss insurance beyond the present hail insurance Program, or which would permit the establishment of a separate field insurance program. Farmers have understandable concerns about spot-loss and separate field insurance programs but it does not appear that these concerns can be resolved within the framework of the present all-risk crop insurance program.

7.11 Coverage Levels And Cost Of Production

One of the objectives of crop insurance from its inception has been to provide coverage at levels which would cover as much of the farmer's variable costs as possible when natural hazards seriously reduce crop yields. The individual farmer in Alberta has been given a range of options from which he could choose a coverage level most appropriate to his own circumstances.

An analysis was undertaken of the relationship which has existed between crop insurance coverage levels and the farmers' production costs in Risk Areas 2, 8, 10 and 11 for various crops.

The data in Table 7.11.1 illustrate the relationship between the maximum coverage level (70 percent at the high price option) and total and variable costs per acre for wheat in the four risk areas.

In all instances, the maximum coverage level fell below the farmers' total costs of production.

In the case of variable costs, the maximum coverage level exceeded variable costs in all years for spring wheat on summerfallow in Risk Areas 2 and 8. Where wheat was produced on stubble land, variable costs exceeded the maximum coverage level during several years (Table 7.11.1).

In general, minimum coverage levels (60 percent and the low price option) are inadequate in covering variable costs for stubble crops with shortfalls in coverage currently approaching $40 per acre. The maximum coverage levels also tended to be below variable costs for canola and barley, but above variable costs about 50 percent of the time for wheat.

The general relationship between the maximum average and the cash outflow for various crops in Risk Areas 2, 8, 10 and 11 for 1985 is shown in Table 7.11.2.

Table 7.11.1

The Relationship Of Production Costs To Crop Insurance Coverage Levels, 1971-85

	Costs As A Per Cent Of Maximum Coverage					
	Risk Area 2 Spring Wheat Fallow		Risk Area 8 Wheat Stubble		Risk Area 8 Wheat Fallow	
Year	Variable Costs	Total Costs	Variable Costs	Total Costs	Variable Costs	Total Costs
			(per cent)			
1971	72	122	112	206	77	150
72	72	121	118	212	75	144
73	66	107	96	167	60	115
74	63	96	94	151	60	103
75	50	77	85	138	53	95
76	62	96	105	170	64	117
77	63	98	102	167	65	115
78	66	105	109	178	68	124
79	70	113	113	187	68	125
80	70	114	91	152	68	126
81	77	122	99	160	72	131
82	73	118	89	148	66	123
83	72	116	94	150	69	124
84	75	119	96	158	71	129
85	76	120	104	167	75	136

Table 7.11.1 (continued)

Costs As A Per Cent Of Maximum Coverage

Year	Risk Area 10 Wheat Stubble Variable Costs	Risk Area 10 Wheat Stubble Total Costs	Risk Area 11 Wheat Stubble Variable Costs	Risk Area 11 Wheat Stubble Total Costs
1971	125	225	119	212
72	117	217	131	225
73	114	200	133	222
74	103	171	113	174
75	90	143	81	121
76	104	173	98	149
77	107	171	98	150
78	113	187	98	154
79	113	185	100	159
80	102	169	100	161
81	113	182	103	160
82	105	173	94	149
83	100	160	93	143
84	102	163	96	151
85	102	161	93	144

Source: Andruchow, L. "Cost of Production--Coverage Comparison". Edmonton, Alberta Agriculture, Production and Resource Economics Branch, Crop Insurance Review, August, 1986.

Table 7.11.2

Relationship Of Maximum Coverage To Cash Outflow[a]
For Typical Farms-1985

Crop/Risk Area	Equity	Cash Outflow	Maximum Coverage	Maximum Coverage Less Cash Outflow
			($/acre)	
Wheat Summerfallow/02	89%	98.50	101.25	2.75
Canola Summerfallow/02	89%	98.50	109.20	11.15
Barley Summerfallow/02	89%	106.88	109.20	2.32
Canola Summerfallow/08	83%	130.50	116.20	-14.30
Wheat Summerfallow/08	83%	113.15	102.00	-11.15
Canola Stubble/08	83%	117.50	86.80	-30.70
Barley Stubble/08	83%	113.64	79.80	-33.84
Wheat Stubble/08	83%	103.78	76.50	-27.28
Canola Stubble/10	86%	113.18	77.00	-56.18
Barley Stubble/10	86%	112.17	81.60	-40.57
Wheat Stubble/10	86%	121.03	90.00	-31.03
Canola Stubble/11	84%	94.61	60.20	-34.41
Wheat Stubble/11	84%	96.90	87.00	-9.90
Barley Stubble/11	84%	94.46	68.40	-26.06

Source: Andruchow, L. "Cost of Production--Coverage Comparison". Edmonton, Alberta Agriculture Production and Resource Economics Branch, August, 1986.

[a] For the purpose of this analysis cash outflow includes direct cash costs, operator's labour and capital interest paid.

Up to this point, nothing has been said about the relationship between crop insurance coverage and production costs when farmers have varying amounts of debt,i.e., changes in the debt/equity ratio. The basic question is this: How vulnerable is the farm at various debt/equity ratios?

The data in Table 7.11.3 illustrate the relationship between maximum coverage and costs when the equity is reduced from 100 percent to 55 percent. In the case of spring wheat on stubble in Risk Area 8, for example, the cash outflow per acre exceeded the maximum coverage by $8.06 per acre in 1985 when the farmer's equity was set at 100 percent; this difference widened to $41.96 per acre when the farmer's equity was reduced to 55 per cent.

Clearly, farmers with a high debt/low equity ratio were considerably more vulnerable to crop loss than were the farmers who had 100 per cent equity (no debt) in their operations.

The pertinent question from a crop insurance point of view is whether and under what circumstances the physical yield coverage level can be increased from the present maximum of 70 per cent at a premium rate that is affordable and acceptable to farmers.

We will recall from earlier analysis that the actuarially sound premium rate required to increase the coverage level goes up at an increasing rate i.e. a ten percent increase in coverage level calls for a significantly greater increase in the corresponding premium rates.

The data in Table 7.11.4 illustrates the additional cost of moving the coverage level from 70 to 80 percent for Risk Areas 2, 8, 10 and 11.

It is clear that farmers need some form of safety net, such as crop insurance, under their efforts to maintain the type of productivity required to meet their operating costs given current prices for their products.

Table 7.11.3

Maximum Coverage Less Cash Outflow For Various Equity Levels

Equity Level (%)		1975 $/acre	1985 $/acre
	Risk Area 2 Spring Wheat on Fallow		
100		31.11	6.12
55		18.90	-24.42
	Risk Area 8 Wheat on Fallow		
100		30.78	18.07
55		10.44	-32.78
	Risk Area 8 Spring Wheat Stubble		
100		3.65	-8.06
55		-9.91	-41.96
	Risk Area 11 Spring Wheat Stubble		
100		5.33	-1.51
55		-5.29	-28.06

Source: Andruchow, L. "Cost of Production--Coverage Comparison". Edmonton, Alberta Agriculture. Production and Resource Economics Branch. Crop Insurance Review, August, 1986.

Table 7.11.4

Premium Rates Associated With Coverage Levels At 60%, 70% And 80% In Risk Areas 2, 8, 10 And 11, Alberta, 1984

Risk Area	Ten-Year Moving Average Yield (1974-83)	60% Coverage		70% Coverage		80% Coverage	
		Bu Per Acre	Premium Rate (%)	Bu Per Acre	Premium Rate (%)	Bu Per Acre	Premium Rate (%)
#2	28.72	17.23	3.1	20.10	5.7	22.98	8.2
#8	27.72	16.63	3.7	19.40	5.4	22.18	7.5
#10	33.51	20.10	7.6	23.48	9.0	26.81	10.7
#11	29.50	17.70	8.0	20.65	9.6	23.60	11.3

Source: Risk Area Yield Data, AHCIC.

It has already been emphasized that the maximum price option should not exceed the market price for the grain being insured. The only other way of raising the coverage level is to increase the yield guarantee above the present 70 percent coverage level. But it has been demonstrated that the cost of increasing the coverage level from 70 to 80 percent goes up at an increasing rate.

While it is quite understandable why farmers want a coverage level high enough to cover their out-of-pocket production expenses, it must be emphasized that crop insurance is basically a yield insurance program based on certain actuarial requirements. It is clear that if the coverage level cannot be increased sufficiently to cover the farmer's variable expenses, farmers are more exposed and more vulnerable to crop loss. But this is a problem that cannot be resolved within the crop insurance program. Other policies and programs will have to be established to cope with the problem.

7.12 Livestock Feed Security Program

An insurance plan to cover hay and pasture crops was first offered to Alberta farmers in 1979 as a pilot project involving five counties. Since then, the program has been extended to other areas of the province. By 1985, the hay and pasture insurance program involved 1,135 policy holders with a total liability of $12.7 million (Table 7.12.1).

Between 1979 and 1985, the Hay and Pasture Insurance Program has an accumulated loss-to-premium ratio of 182.0 and had a payout record of losses exceeding premiums in five of the seven years of operation.

While the hay and pasture insurance program represented the beginning of an important program for Alberta livestock producers, it was found to be inadequate during the drought years of 1984 and 1985.

Table 7.12.1

Livestock Feed Security Program, Alberta, 1979-85

Year	No. Of Policy Holders	Acres Insured (000)	Liability ($000)	Premiums ($000)	Losses ($000)
1979	409	45.9	2038	213	173
80	964	130.8	6458	628	762
81	1041	145.0	8462	965	461
82	729	122.1	6539	799	1050
83	607	106.2	5805	755	1718
84	1107	196.8	11041	1524	3862
85	1135	220.3	12686	1700	7402

Source: AHCIC Annual Reports.

In 1984-85, ad hoc livestock drought assistance in the amount of $27.5 million was paid to Alberta livestock producers; this was followed by a further $111.2 million in 1985-86. Seventy-five percent of these funds came from the province of Alberta with the remainder provided by the Government of Canada. In addition, 1985 AHCIC crop write-off levels were modified at a cost of $13.5 million to the provincial treasury, to permit livestock producers to cut drought-stricken crops for forage without reducing their crop insurance claims.

In 1986, after two severe drought years, four consecutive loss years in the Hay and Pasture Insurance Program, and costly ad hoc livestock drought assistance programs, it was decided to introduce the Alberta Livestock Feed Security Program. It was hoped that this program would remove the need for unplanned, ad hoc programs for livestock producers in future years if widespread crop losses occurred again.

Under the Livestock Feed Security Program, livestock producers have two options available to them (Table 7.12.2).

- Plan A (Hay Acreage).
- Plan B (Animal Units).

Plan A bases insurance coverage on the production of hay. This plan is designed to protect those producers who feed hay or who sell hay for revenue. Pastures and native rangeland do not qualify for insurance under Plan A.

Plan B uses total animal units to determine coverage protection under the insurance program.

Except where insured farmers produce either animals or hay, the plan selected is the one which provides the greater coverage protection.

An appropriate premium is calculated for each of the plans.

Table 7.12.2

Maximum Coverage And Farmer Premium Rates
Livestock Feed Security Program, Alberta, 1986

	Plan A	Plan B	
Rate Area	Hay Max Coverage Per Acre $	Livestock Max Coverage $/Animal Unit	Premium Rate Per Cent Of Coverage Plan A or B
1	100	250	6.0
2	110	250	6.5
3	110	250	6.5
4	100	250	6.5
5	90	250	7.0
6	80	250	7.5
7	70	250	8.0
8	60	250	8.5
9	50	250	9.0
10	50	250	9.5
11	50	250	10.0

Source: AHCIC Sales Manual, 1986.

The Livestock Feed Security Program was designed to cope with major crop disasters such as those which occurred during the 1984 and 1985 major drought years.

Whether this program will meet the major test will only be known after several more years of experience. However, a retroactive application of the program to the 1984 and 1985 crop disasters indicates that the program provides a level of protection to livestock producers at least as valuable as the combined value of the programs and ad hoc emergency measures which existed or which were implemented during 1984 and 1985. What is very important, the Livestock Feed Security Program provides a planned and systematic way of coping with widespread and major crop disasters in Alberta.

No doubt, further experience will reveal revisions and changes which should be made to improve the effectiveness of the program. In the meantime, however, Alberta livestock producers have available to them a valuable form of protection against major and adverse climatic changes in their industry such as those which occurred in 1984 and 1985.

7.13 Individual Coverage

Under the existing good experience coverage adjustment and premium discount program, above average producers, with no-loss years under the basic program, can achieve a coverage increase of 30 per cent over the basic coverage level, and a premium discount of 25 per cent of the basic premium rate.

This means that these producers can have an affective coverage (130 percent of the 70 percent level) equivalent to 91 percent of the area average yield.

In principle, there is no reason why the good experience coverage adjustment and premium discount program could not be utilized to cover the full range of yield possibilities, all the way from the consistently low yield producers to the superior performers. If the current minimum and maximum good experience coverage adjustments are too limited to cover the full range of possibilities among the insured farmers, there is no reason, in principle, why the minimum and maximum limits could not be extended. In theory, the good experience coverage adjustment and premium discount program provides the framework within which each individual farmer would find an appropriate place on the scale consistent with his own productivity and risk experience. Given sufficient time, the good experience program would really be a form of "individual coverage" programs.

As we have already indicated in Section 7.8, however, the good experience program reflects a number of functions in addition to the individual management ability factor i.e. the mechanism is expected to correct or compensate for such additional factors as variations in soil types and cultural practices, deficiencies in the basic yield data, trend yield increases etc. The "overload" problem makes the good experience program less sensitive to the management ability factor than one would prefer.

For practical reasons, there appears to be a case for a more direct form of individual coverage program.

For those producers who believe that their individual crop yields are so high that they cannot benefit from the existing good experience coverage adjustment and premium discount program, there is an individual coverage program available to them.

Under the existing individual coverage program, the farmer can use his own yield experience as the basis for the calculation of his coverage level. For those farmers with no documented record of their past yields, the coverage level is based on one year of the farmer's own yields and four years of area average yields on a five year base. With each succeeding crop year, the farmer's area yields are added to the base and one year of the area average is dropped. By the end of the fifth year, the coverage level for the individual farmer is based on his own yields for the past five years. The farmer's own yields continue to be added to the base period until he has established a ten-year base period covering his own yields. From that point on the individual farmer's coverage level is based on a ten-year moving average of his own yields.

The premium rate for the individual coverage program is based on the premium rate established for the corresponding risk area.

Once on individual coverage, the farmer is still eligible for the good experience premium discount but not the good experience coverage adjustments provided for under the basic program.

The individual coverage program eliminates the concern about special adjustments relating to variation in soil types, cultural practices, and management differences within a risk area.

The fact, however, that so few farmers in Alberta have enrolled in the individual coverage program raises a question as to why the program has not been more popular or acceptable to farmers.

The explanation might be illustrated by a simple example (Table 7.13.1). A farmer with an average slightly above the area average, and with no loss years, can establish a coverage level at 91 percent of the area average level. In the example, he could have a good experience coverage level of 27.3 bushels compared to the farmer at basic coverage of 21 bushels. The farmer on individual coverage would have to have a yield of at least 39 bushels in order to establish the same coverage level as the farmer on the good experience coverage adjustment with an average yield of only 33 bushels per acre (and no loss years). In this example, many farmers would not realize the advantage of individual coverage unless their yields were significantly more than 30 percent of the area average yield.

Table 7.13.1

Example Comparing The Results Of The Good Adjustment Program With Individual Coverage

	Basic Coverage Farmer A	Basic Coverage Farmer B	Individual Coverage Farmer C
Average Yield	30 bu	33 bu	39 bu
Basic Coverage	21.0 bu	27.3 bu	27.3 bu
Premium Rate	$2.00	$1.50	$1.50

It could also be that the relatively short base of ten years for the calculation of the coverage level exposes the farmer on individual coverage to considerable instability in his coverage level. Two or three very low yields in the ten-year base could significantly depress the coverage level for the farmar on individual coverage.

It should also be noted that the farmer on individual coverage has additional responsibilities imposed on him under the program: grain must be stored separately each year and in such a way that it can be accurately measured. He must document the disposal of any grain through sales or feeding of livestock. It should also be noted that any hail damage to the farmer's crop can reduce (to the extent of the hail damage) the farmer's yield base for the purposes of calculating coverage levels in subsequent years. By contrast, hail damage may not affect the coverage level of the farmer on the good experience coverage adjustment program.

Whatever the reasons for the small enrollment in the individual coverage program under the present AHCIC basic program, it is clear that some improvements or modifications will have to be made in the current individual coverage program if it is to be extended to a larger number of farmers in the province.

The universal application of the individual coverage program would have several advantages: it would eliminate the need for special adjustments for variation in soil types, cultural and management practices. It would not only recognize the above average farmers but it would place tha below average farmers at their proper place on the coverage scale.

There are several variations of the individual coverage type program which could be considered:

- Minor or major modifications of the existing program.

- An individual coverage based on some form of indexing of the basic area coverage. The index could be based on a moving average of the farmer's individual yields compared to the area average yield.

- Coverage based on some quantitative measure or index of inputs used by the individual farmer.

The latter alternative was initiated in Manitoba in 1977 on a pilot scale basis but was discarded after two years of experience because of the costs and administrative difficulties associated with the operation of the program.

The second alternative has merit in the sense that the individual farmer's coverage level would be provided with greater stability than basing the coverage on his own yields entirely. The greater stability would be produced because the index would be based on an average of the individual farmer's yield relative to the area average.

Unless and until the current problems associated with the good experience coverage adjustment and premium discount, and other such special adjustments, are resolved, it seems clear that a separate mechanism is required to handle the variations and differences in management practices. This separate mechanism would appear to be the individual coverage program.

Indeed, there is no obvious reason why both the good experience coverage adjustment and premium discount program (providing certain problems are resolved) and the individual coverage program should not continue to co-exist under the Basic Program.

If the good experience program is performing effectively, it can continue to serve the majority of the farmers. The individual coverage program could be used to advantage by farmers with exceptional management ability and who are prepared to accept the additional requirements and responsibilities which go with that program. It is also conceivable that farmers with a consistently low productivity performance and high loss records should be placed on some form of individual coverage program.

It may be after further experience that a case could be made for a universal individual coverage program.

In the meantime, an assessment should be made of the past experience of the individual coverage program and the reasons why so few farmers in Alberta have decided to enroll in the program.

Until the existing individual coverage program can be improved to the point where the majority of the insured farmers in Alberta are willing to join the program on a voluntary basis, it would not seem wise to make individual coverage the exclusive foundation of the basic crop insurance program. At the same time, there are strong arguments for the continuation of some form of individual coverage programs along with the existing basic crop insurance program.

7.14 Federal-Provincial Reinsurance

Earlier studies indicated that provincial crop insurance programs should not be initiated without assurance that some form of extraordinarily large financial reserves would be available to protect the provincial programs against disastrous crop losses such as occurred in the 1930's.

After lengthy analysis and discussions, a reinsurance agreement was included as a part of the overall federal-provincial crop insurance agreement in 1965.

The reinsurance agreement provided, in effect, that the federal government would share in the burden of catastrophic crop losses after reserves of the provincial crop insurance corporation had been exhausted and after the province had paid the equivalent of 2 1/2 per cent of the total crop insurance coverage in the form of a "deductible clause under the reinsurance agreement.

Each year the insured farmers in the province were to pay an annual reinsurance premium to two reinsurance funds: the Reinsurance Fund of Alberta, the Crop Reinsurance Fund of Canada for Alberta.

The relationship of the two reinsurance funds to the Alberta Hail and Crop Insurance Program is illustratad in Figure 7.14.1.

The reserves which had accumulated in each of the two funds are included in Table 7.14.1. The accumulated reinsurance reserves continued to increase until 1984 and 1985 when, for the first time in Alberta, claims were made under the Canada Alberta Reinsurance Agreement. Indeed, by March 31, 1986, the estimated deficits in the two reinsurance funds amounted to approximately 78 million (Table 7.14.1).

If there was some impatience about the annual premiums going into the reinsurance funds, given the size of the accumulated reserves, during ths period 1963 to 1983, it should be now clear that the basic objective of the Reinsurance Fund is to accumulate large reserves for the time when major crop disasters do occur at infrequent intervals.

7.15 Disaster Insurance

The two back-to-back major droughts in Alberta during 1984 and 1985 had a severe impact on many aspects of the Alberta Hail and Crop Insurance Program:

- The average area yields, particularly in Risk Area 1 and 2 fell drastically,
- Crop insurance coverage levels have begun to decline under the ten-year moving average base;
- Indemnities in the amount of $419 million were paid out during 1984 and 1985;

Figure 7.14.1

Premiums, Reinsurance, Indemnities and Reserves, Canada-Alberta Crop Insurance

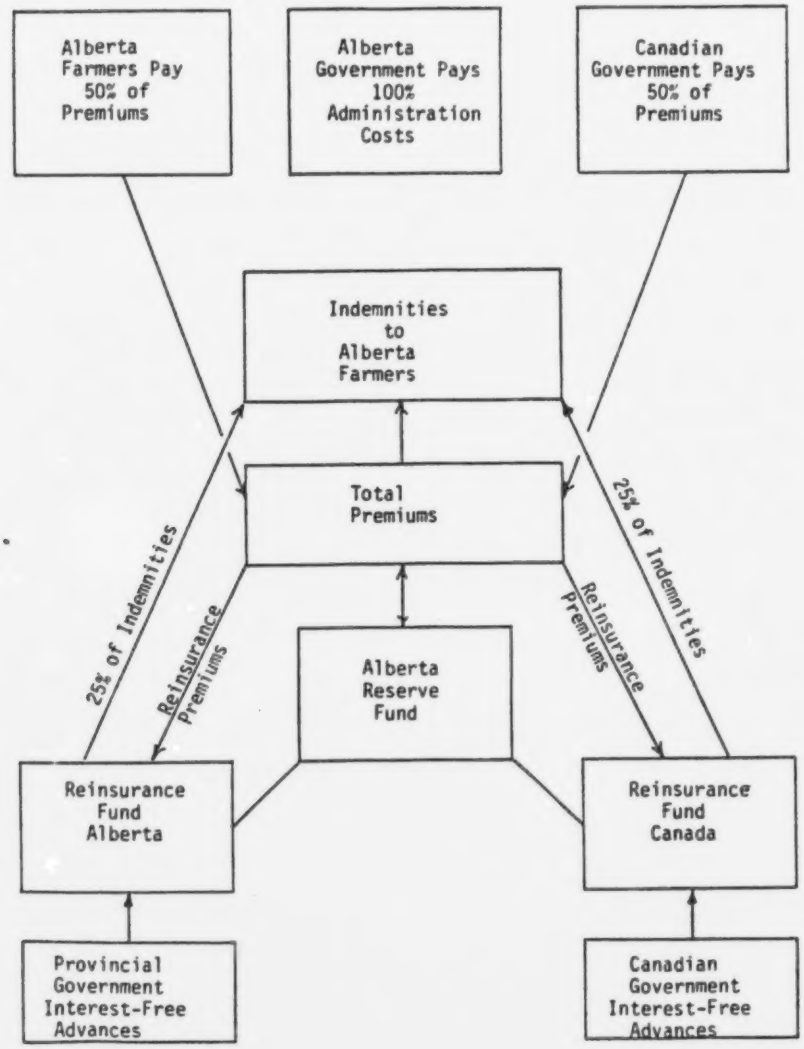
Alberta Farmers Pay 50% of Premiums
Alberta Government Pays 100% Administration Costs
Canadian Government Pays 50% of Premiums
Indemnities to Alberta Farmers
Total Premiums
25% of Indemnities
Reinsurance Premiums
Alberta Reserve Fund
Reinsurance Premiums
25% of Indemnities
Reinsurance Fund Alberta
Reinsurance Fund Canada
Provincial Government Interest-Free Advances
Canadian Government Interest-Free Advances

Table 7.14.1

Balance Of Reinsurance Funds For Alberta And For Canada-Alberta Accounts Ending March 31, 1982-86

Year	Alberta	Canada-Alberta
1982	$26,456,122	$42,242,551
83	31,827,321	47,613,750
84	38,361,737	54,148,167
85	23,800,000	53,700,000
86 (estimated)	(-$23,000,000)	(-$55,300,000)

Source: AHCIC Annual Reports.

- There have been a damaging loss of good experience coverage adjustments and premium discounts which have accumulated to the credit of individual farmers over a number of years;

- The AHCIC reserves and the Canada-Alberta reinsurance reserves moved into a deficit position.

Given the experience in 1984 and 1985, the fundamental question to be addressed is this: can the AHCIC program be revised in a way that would prevent 2 or more consecutive years of drought (or other major calamities) from causing abrupt and disruptive changes in coverage levels, premium rates and the accumulated good experience coverage adjustments and premium discounts.

As a short-term measure, the federal and Alberta governments established a crop insurance coverage restoration program for 1985-86, and 1986-87. In effect, this program restored coverage levels for 1985 and 1986 to the level which held in January, 1984. This two-year program was devised to counteract the rapid loss in good experience coverage adjustments and premium discounts which insured producers absolved as a result of the 1984 and 1985 droughts. The cost of the coverage restoration program amounted to approximately $31.5 million in 1985-86 and $50 million in 1986-87 and was paid by the government of Alberta.

If the negative consequences and the need for ad hoc programs are to be eliminated, what adjustments can be made in the existing crop insurance program to anticipate, in a more systematic way, the effects of major disasters on Alberta's Hail and Crop Insurance Program?

It would appear that both a short-term and long-term course of action are required.

While a long-term course of action is being developed, (for implementation in 1988), it seems necessary that the coverage restoration program be extended for one more year (i.e. for 1987). This one-year extension would protect the AHCIC program from the abrupt and disruptive effects which would follow if the coverage restoration program were terminated at the end of 1986-87.

In the meantime, work should start immediately on the development of a long-run disaster insurance program which would be implemented in 1988.

The long-run disaster insurance program should have the following conditions and requirements:

- A "major disaster" would need to be defined for the purposes of the crop insurance program.

- The essential features of the definition would include the following:

- The disaster would be based on area criteria: consecutive years of loss; losses beyond a certain magnitude; a certain proportion of the producers in the area would suffer a defined loss.

- Indemnities would be paid on an area wide basis, not individual experience;

- Premiums to cover indemnities paid out under the disaster insurance provisions would be borne by all insured farmers in Alberta;

- There would be an automatic formula or mechanism to trigger the disaster insurance provisions;

- To avoid boundary disputes between the disaster area and adjoining areas provision should be made for graduated reductions (from 100 percent to zero percent) in the indemnities paid beyond the boundaries of the declared disaster area.

When a crop insurance area was designated a "disaster area" for crop insurance purposes, a "freeze" would be placed on coverage levels, premium rates, and good experience coverage adjustments and premium discounts for all farmers within the designated disaster area.

The cost of the "freeze" should be borne by a province-wide premium rate shared in the same manner as that now used for the basic crop insurance premiums.

The province-wide premium surcharge for disaster insurance assumes that all areas in the province, at some point in time, face the risk of a "disaster loss", where such a loss may be caused by drought, widespread flooding, massive frost damage or other such widespread calamities.

An area designated as a disaster area should be large enough to give meaning to the disaster insurance program. For example, an area somewhere between 10 or 15 townships (including a range of 300 to 500 sections of land and perhaps involving 200 to 300 farmers) may be a suitable size for a major loss area.

The term "disaster" might be defined, for example, as one where over 50 percent of the farmers in the designated area received crop insurance indemnities in 2 of the last 3 years and where the total indemnity/total liability ratio for the designated area exceeded 15 per cent for each of the two loss years in question.

The fundamental objectives of a "disaster insurance" provision under the basic crop insurance program would be achieved when the following conditions were met:

- Indemnities sufficient to offset the major effects of an area-wide crop disaster while at the same time protecting the fundamental integrity of the basic crop insurance program.

- Elimination of the need for ad hoc emergency programs such as those which were deemed to be necessary during the 1984 and 1985 drought years.

- A program defined in a way that the disaster insurance provision would apply to a variety of major crop losses, in addition to drought.,

- An automatic formula that would trigger the disaster insurance provision when a major crop loss disaster was encountered;

- Systematic "budgeting" for the extraordinarily large indemnities paid out during a defined major crop loss disaster. This systematic "budgeting" would take the form of an annual premium levy sufficient to cover the major crop disaster indemnities paid out at infrequent intervals.

The disaster insurance program should be an integral part of the basic insurance program, not a separate and independent policy. This integration could be achieved by appropriate amendments and changes in the existing Basic Hail and Crop Insurance Program and the Canada-Alberta insurance agreement.

7.16 A More Comprehensive Approach To Income Stability

Crop insurance has been designed to deal with crop yield instability, not price variability problems, market constraints or production cost increases.

Other policies and programs such as the Western Grain Stabilization Plan, the Prairie Grain Advance Payments Act, the Two-Price Wheat Act and the initial pricing policy of the Canadian Wheat Board have been established to deal with the market, price, production cost and annual cash flow problems.

In a general way, these policies and programs along with crop insurance do provide a minimum form of income stabilization to prairie grain producers. There is no question that these programs have helped to reduce farm income instability in the prairies. But major problems remain.

While large payments have been made under the WGSP, the program is not sensitive to particular conditions at a regional or an individual farmer level. All farmers in the prairies during 1984/85 and 1985/86 received payments under the WGSP program even though some regions and individual farmers had bumper crops. No payments were made under the WGSP in 1980 in spite of the massive crop losses in many parts of Manitoba and Saskatchewan.

While price declines are eventually factored into the WGSP payment formula, there is no explicit or recognizable way in which the WGSP payment formula relates to the price options established under the crop insurance programs. In 1986, the CWB initial prices were reduced by nearly 20 percent. This price decline left the high price option under the crop insurance program well above the CWB initial prices. This problem will be exacerbated in 1987 if there is a further decline in the CWB initial prices.

Clearly, if the crop insurance program is not to become a "price insurance" program, the high price option ($150 per tonne for wheat, $105 per tonne for barley and $280 per tonne for canola for the 1986 program) will have to be reduced very significantly in 1987 if the high price option is not to exceed the market prices of grain. The CWB initial price for wheat for the crop year 1986/87 was set at $130 per tonne and it could be significantly lower for 1987-88.

The time has come to develop an overall framework for the better co-ordination, if not the integration, of the several policies and programs designed to assist grain producers in coping with the instability facing their industry.

Several studies have been undertaken to determine how and to what degree crop insurance can be co-ordinated or integrated with programs such as the WGSP to achieve some form of comprehensive revenue stabilization program for prairie grain producers.

The following proposal outlines the framework for a "Prairie Grain Revenue Insurance Program" which would provide crop insurance coverage with an explicit price policy to provide a minimum form of grain revenue insurance at the individual farm level.

The example cited in Table 7.16.1 provides an illustration of how the program would operate.

In this example, the program would provide a price guarantee equivalent to 80 percent of the previous ten year average price on quantities of grain equivalent to the 70 percent coverage level established under the crop insurance program. (For farmers not enrolled in the crop insurance program, the price guarantee would apply to the farmer's actual yields up to the equivalent of the crop insurance 70 percent coverage level.)

All quantities of grain produced in excess of the crop insurance 70 percent coverage level would be sold at prevailing market prices.

For the insured farmer, his guaranteed minimum revenue would be comprised of two parts:

- A price guarantee equivalent to 80 percent of the ten year moving average price for each crop insured.
- "Eligible" crop volumes based on the 70 percent crop insurance coverage level and his insured acreage of each crop.

To finance the Prairie Grain Revenue Insurance Program, a FUND would be established to which the federal government, the provincial government and the grain farmers in the province would contribute annual premiums (equally shared among the three partners) sufficient to cover the expected price guarantee indemnities paid from the FUND.

TABLE 7.16.1

AN EXAMPLE ILLUSTRATING THE APPLICATION OF THE PRAIRIE GRAIN INCOME STABILIZATION PROGRAM (PGISP) TO AN INDIVIDUAL FARMER

I. Base crop insured acres

   A. Wheat - 600 acres
   B. Barley - 300 acres

II. Guaranteed price: based on 80 percent of previous ten year average price

   A. Wheat: $4/bu or $147/tonne
   B. Barley: $2.10/bu or $96/tonne
   C. Wheat guarantee price 80 percent of $147/tonne - $118/tonne or $3.20/bu
   D. Barley guarantee price 80 percent of $96/tonne - $77/tonne or $1.68/bu

III. 70 percent coverage level of long-term area yield used in crop insurance

   A. Crop insurance coverage level at 70 percent for:

      1. Wheat - 20 bu/acre
      2. Barley - 30 bu/acre

IV. Revenue guarantee under crop insurance

   A. Wheat

      1. Per acre: 20 bu x $3 = $64
      2. Total: 600 acres x $64 = $38,400

   B. Barley

      1. Per acre: 30 bu x $1.68 = $50
      2. Total: 300 acres x $50 = $15,00

   C. Total guaranteed income under crop insurance

      1. Wheat = $38,400
      2. Barley = 15,000
      $53,400

TABLE 7.16.1 (continued)

V. Crop loss under insurance

  A. Wheat harvested = 15 bu per acre

  B. Barley harvested = 20 bu per acre

  C. Payment to farmer under crop insurance:

    1. Wheat 5 bu @ $3.20 x 600 acres = $ 9,600
    2. Barley 10 bu @ $1.68 x 300 acres = 5,040
    $14,640

VI. Farmers not under crop insurance

  A. Acreage

    1. Wheat - 600 acres
    2. Barley - 300 acres

  B. Harvested yield

    1. Wheat - 15 bu per acre
    2. Barley - 20 bu per acre

  C. Guaranteed price

    1. Wheat - $3.20/bu
    2. Barley - $1.68/bu

  D. Income

    1. Wheat

      a) Per acre 15 bu @ $3.20 = $48
      b) Total wheat income: 600 acres x $48 = $28,800

    2. Barley

      a) Per acre 20 bu @ $1.68 = $33.60
      b) total barley income: 300 acres x $33.60 = $10,080

    3. Total revenue

      a) Wheat = $28,800
      b) Barley = 10,080
      $38,880

The program would be voluntary for the individual farmer.

If the Prairie Grain Revenue Insurance Fund was established alongside the WGSP, three possibilities would exist:

- Farmers who wished to participate in only the WGSP;
- Farmers who wished to participate in only the Grain Revenue Insurance Program;
- Farmers who wished to participate in both programs.

To prevent duplication between the WGSP and the Grain Revenue Insurance Program in the case of the third group of farmers, it is proposed that appropriate and integrated adjustments be made in the premium rates and indemnities paid under both programs.

All other aspects of the WGSP would continue to operate in accordance with its current policies and procedures.

The general advantages of the proposed Prairie Grain Revenue Insurance Program would be the following:

- It would provide, along with crop insurance, a minimum form of direct income stabilization to prairie grain producers.
- It would complement and reinforce the existing crop insurance program.
- It would not detract from the broader and more general purposes of the WGSP.
- It would free the CWB to set its initial prices in accordance with the market forces.

- The quantity of crop sold above the volume eligible for the price guarantee, would:
  - * Permit individual farmers to decide for themselves how to allocate their resources and to control or not to control their production.
  - * Grains would be priced in a way that would not unduly disadvantage the livestock producer.

- It would make the "price support component" of the WGSP more explicit.

- It would obviate the need for emergency ad hoc program.

- It should add little, if any, further costs to the total costs already committed to the overall stabilization of the grain industry.

There may be other ways, of course, to deal with the price issue in the prairie grain industry. However, the proposed Prairie Grain Revenue Insurance Program, when combined with crop insurance, does provide the prairie grain producer with a more systematic way of stabilizing his income at the individual farm level.

7.17 RECOMMENDATIONS

7.17.1 Disaster Insurance

It is recommended that:

- The crop insurance coverage restoration program implemented in 1985/86 and 1986/87 be extended for one additional year to 1987/88.

- Work commence immediately to develop a framework and operating procedure for a long-run disaster insurance program which would come into effect for the crop insurance year 1988. The disaster insurance program should be an integral part of the basic insurance program, not a separate program.

7.17.2 Prairie Grain Revenue Insurance Program

It is recommended that steps be taken to lay the groundwork for the development of a Prairie Grain Revenue Insurance Program. This program would provide a price guarantee on a volume of crop per acre equivalent to the yield set at the 70 percent crop insurance coverage level. The price guarantee, when combined with the crop insurance coverage levels, would provide insured farmers with a minimum form of guaranteed income at the individual farm level.

7.17.3 Individual Coverage

It is recommended that:

- The provisions for individual coverage be continued as an integral part of the Basic crop Insurance Program.

- Individual coverage be based on a form of indexing of the basic area coverage; the index is to be based on a moving average of the farmer's individual yields compared to the area average yield.

- Existing weaknesses in the existing individual coverage program be identified and steps be taken to remedy the weaknesses with the objectives of providing a program that would appeal to a far larger number of above average production farmers than has been the case to date.

- Farmers with a consistently low productivity performance and high crop insurance loss records be placed on some form of individual coverage program.

7.17.4 Spot-Loss Insurance

Notwithstanding the considerable appeal to farmers of an extended spot-loss insurance program, it is recommended that:

- No further spot-loss insurance programs be established beyond the present hail insurance program.

There does not appear to be any sound actuarial basis, at a premium rate and an administrative cost that would permit the extension of spot-loss insurance to single perils, besides hail insurance, or to a separate field insurance program.

7.17.5 Price Options

It is recommended that:

- Price options under the AHCIC program be set in a way that they do not exceed the market price for the grain being insured.

- In the absence of a price policy guarantee, the high price option be tied directly to the CWB initial prices for the grains sold through the CWB.

7.17.6 Coverage Levels And Cost Of Production

Notwithstanding the understandable concern of farmers that crop insurance coverage levels be high enough to cover their crop costs of production, it is recommended that:

- The crop insurance coverage levels continue to be set on the basis of yield data, prices and procedures consistent with sound actuarial principles.

- Consideration be given to the possibility of introducing a coverage level at the 80 percent level with the provision for a deductible clause between zero and 20 percent of the basic yield; the farmer to bear any losses within the range of the 0 to 20 deductible clause.

7.17.7 Coverage Adjustment, Premium Discounts And Other Special Adjustments

It is recommended that:

- Provision be made to capture trend yield increases in the basic yield data rather than through the use of the good experience coverage adjustment; some form of trend yield index should be integrated into a longer run moving average yield base used for the calculation the coverage levels.

- Provision be made to introduce a system of premium surcharges above the basic premium rate to balance the present system of premium discounts.

- Over a period of time, actions be taken to achieve a more symmetrical distribution of the good experience coverage adjustments around the basic crop insurance coverage; the preponderance of positive coverage adjustments should be balanced by negative coverage adjustments if the basic actuarial requirements of the program are to be met.

7.17.8 Fallow And Stubble Land

Based on an analysis of existing yield differentials between fallow and stubble land for the various crop insurance risk areas, it can be concluded that the present differential rates applied by the AHCIC may not be valid in several of the risk areas. It is recommended accordingly that:

- A detailed analysis be undertaken by the AHCIC of the fallow-stubble crop yield differentials in the various risk areas with the objective of initiating needed changes in time for the 1988 crop insurance year.

- Consideration be given to eliminating the fallow/stubble yield distinction in Risk Area 6, 7, 9, 10, 11, 13 and 14, while retaining an appropriate differential in Risk Areas 1, 2, 3, 4 and 12. Risk Area 5 exhibits yield characteristics of both of the above groups and require further investigation to ascertain the appropriate action.

7.17.9 Soil Classes

To the extent that more detailed information may be required to improve and refine yield data for the basic coverage program, it is recommended that:

- The soil productivity ratings should be detailed to the quarter section level to minimize the potential for misclassification of insured acreages by soil class.

- Further investigation be undertaken to quantify the yield response of crops on different soils to inputs and management practices.

It is recognized, of course, that further refinement of the soil class data would be costly and would involve an immense amount of additional research and field study. Accordingly, it is recommended that this type of work be phased over an appropriate period of time.

7.17.10 Risk Areas

It is recommended that:

- The unfavorable loss-to-premium ratios in some risk areas be investigated with the objective of adjusting coverage and premium schedules to better reflect risk probabilities in these areas.

7.17.11 Farm Size Premium Discounts

Background research has indicated that larger farm sizes do not appear to be correlated with lower yield risks. It is recommended, accordingly, that the farm size premium discount be eliminated.

7.17.12 Separate Contracts For Distant Farm Units

From an equitable point of view, it is doubtful if the provision for a separate contract for a distant farm unit should be continued under the Alberta Hail and Crop Insurance Program. It is recommended that this provision be seriously considered for elimination.

7.17.13 Small Appraisals And Quality Loss Loadings

It is recommended that these special loadings in the premium rate be eliminated since the use of actual loss costs already incorporates these costs in premium calculations.

7.17.14 Premium Loading For Unseeded Acreage

It is recommended that the special premium loading for unseeded acreage be eliminated since premiums are already paid for the additional insurance for this purpose.

7.17.15 High Risk Subsidy

From a strictly actuarial point of view, the true coverage levels and premium rates for all soil classes should be identified, quantified, and applied if the basic crop insurance program is to have a neutral affect on resource use in agriculture.

At the same time, it is recognized that the current high risk subsidy, which has the effect of limiting premium costs to a maximum of 6 percent or 7.5 percent of coverage (at the 60 percent and 70 percent coverage levels, respectively), has been designed to provide some assistance to farmers on high risk soils. This subsidy is not unlike the overall federal and provincial contributions to the overall crop insurance premiums and adminstrative costs.

In order to maintain as much resource use neutrality as possible consistent with the objective of the provincial high risk subsidy, it is recommended that:

- Farmers share some part of the premium contribution above the existing 6 percent or 8 percent maximum levels.

- And that a provincial-wide levy be assessed on the provincial crop insurance program given the fact that many farmers, including those with premium rates less than the maximum levels, have some high risk soils included in their farm land base.

CHAPTER 8

RECOMMENDATIONS AND CONCLUSIONS

8.1 Prairie Grain Revenue Insurance

Prairie grain producers have historically been faced with wide variation in net farm income. During the period 1960 to 1985, the average year-to-year variation in net farm income was 28.5 percent (Table 7.2.1). Crop insurance was not designed to deal with income problems and should remain as a yield protection mechanism.

The Western Grain Stabilization Plan, Prairie Grain Advance Payments Act, the Two-Price Wheat Act and the initial pricing policy of the Canadian Wheat Board have been established to deal with market price, production costs and cash flow problems. While these programs have helped to reduce farm income instability in the prairies, major problems still remain.

There is a need to develop a price insurance program more closely integrated with crop insurance to assist producers in coping with the instability facing grain producers.

Recommendations

A framework for a "Prairie Grain Revenue Insurance Program" is outlined in detail in section 7.16 of this report. It is recommended that the initiation of this proposal be pursued at the highest level, with consultation among the premiers of the prairie provinces, the federal minister of agriculture and the federal minister responsible for the Canadian Wheat Board, with a view to implementation as soon as possible. This program, along with the proposed Disaster Insurance would obviate the need for ad hoc programs in the future.

8.2 Disaster Insurance

The two back-to-back major droughts in Alberta during 1984 and 1985 had a severe impact on many aspects of the Alberta Hail and Crop Insurance Program:

- the average area yields, particularly in Risk Area #1 and #2 fell drastically;
- crop insurance coverage levels have begun to decline under the ten-year moving-average base;
- indemnities in the amount of 419 million dollars were paid out during 1984 and 1985;
- good experience coverage adjustments and premium discounts earned over time by producers, have in many instances, been lost through no fault of their own.
- the AHCIC reserves and the Canada-Alberta reinsurance reserves moved into a deficit position.

The total cost of the 1984-85 drought to the Alberta provincial and federal government treasuries was approximately 492 million dollars. There was 243 million dollars paid out in ad hoc programs including livestock and crops. The payout under crop insurance for the two years exceeded a loss to premium ratio of 1:1 by 249 million dollars.

The 249 million was absorbed by the Reinsurance Fund of Alberta and the Crop Reinsurance Fund of Canada for Alberta. In 1986, both funds went into a deficit position, Alberta by 23 million dollars and Canada by 55 million dollars (Chapter 7).

In 1984 and 1985, drought related programs including livestock, aside from crop insurance, cost the Alberta treasury about 136 million dollars and the federal treasury about 107 million dollars.

This of course, was the worst drought realized in over 50 years. Examining AHCIC records, since 1965, there have been only four years since 1965, when the loss-to-premium ratio substantially exceeded 1:1 for basic insurance. These were 1968 (120%) 1969 (151%), 1984 (280%) and 1985 (310%).

Historical disaster risk, however, would have to be examined more closely with respect to the areas defined for "disaster" insurance purposes. Payments would trigger more frequently on an area basis than what provincial averages show.

A need exists for a "disaster" insurance program at affordable premiums to alleviate uncertainties among producers and greatly reduce the need for government emergency ad hoc programs. Inherent in ad hoc programs is extraordinary financing on the part of governments and inequities to producers.

A "disaster" insurance program, to be successful, must be acceptable to producers who do not participate in crop insurance as well as those who do. Many producers, particularly in the higher moisture areas of the province do not participate in crop insurance because of relatively low risk and high premiums. This, however, does not preclude the uncertainty of a devastating crop disaster.

Two feasible approaches to establish costs of a disaster program come to mind. One is when all the criteria of the program are first established, losses from disaster are estimated and premiums assessed accordingly. Another is to assess an affordable premium, predict future revenues and develop the program within this budgetary parameter.

Considering the latter and assuming a tripartite program where the producer would pay one third of the total premium, revenues to the fund are estimated as follows:

> Not including forages, Alberta has over 18 million crop seeded acres of which 11.2 million acres are presently insured. A premium of 50 cents or 1 dollar per acre paid by the producer would generate \$1.50 or \$3 per acre, respectively, under "tripartite".

- With 100 percent participation, the fund, with a $1.50 or $3 total premium per acre would, over a 10-year period, receive 270 or 540 million dollars, respectively.
- At 60 percent participation, the fund would, over a 10-year period, receive 162 or 324 million dollars, respectively.

The advantages of a disaster program are:

- Provide governments a systematic budgeting process to offset the problem.
- Provides a mechanism whereby the producer would share in the cost.
- Provide producers the opportunity to participate in a low cost disaster insurance program without having to participate in basic crop insurance.
- Provide producers with the knowledge that they do have some protection in the eventuality of a disaster.
- A disaster program available to all producers regardless of whether they participate in crop insurance or not, would go a long way in easing governments out of _ad hoc_ emergency payments, particularly if the premium is kept very affordable to the producer. A high level of participation is required.
- It would still be necessary to maintain the reinsurance funds for basic crop insurance but perhaps at a lower level.
- The cost of the "disaster" insurance program should be more than offset by cost of _ad hoc_ programs. Disaster insurance would trigger a payment only on an individual's cropping record as in crop insurance. Hence, blanket area-wide payments would be avoided.
- Contingent upon the deductible for basic insurance (20-80) being made available, it would be to the advantage of a person with basic insurance to take out "disaster" insurance since this would pick up the deductible and increase his claim should a disaster be declared. The premium and coverage could also be indexed in such a manner that a disaster would not impact on either premium rate or coverage for basic insurance.

* The person with only "disaster" insurance would be covered at perhaps a lower level than basic coverage, say at 50 percent of long-term area-average yield.

Recommendations

- Work should start immediately on development of a long-term disaster insurance program for implementation by 1988.

- The disaster insurance program should be an integral part of the basic insurance program, not a separate and independent policy. Contingent upon Federal involvement, integration could be achieved by appropriate amendments and changes in the existing Basic Hail and Crop Insurance Program and the Canada-Alberta insurance agreement.

- The disaster program should include the following conditions:

  * Disaster insurance should be voluntary.
  * All Alberta producers should be eligible to participate whether they have crop insurance or not.
  * Extraordinary indemnities of crop production loss realized by a defined disaster would be paid from the disaster fund.
  * The fund would be established by legislation and remain separate and distinct from AHCIC funds.
  * The fund would be administered through the AHCIC and payments of indemnities would be based on the same criteria as now used by the AHCIC.
  * There are to be no double indemnities vis-a-vis AHCIC payments and disaster payments.
  * The livestock feed security program needs examination to determine how well it meets the need for a "disaster". There may be a need for a livestock feed security provision under the disaster program.

  * A major disaster would need to be defined for purposes of the program.

- The disaster would be based on area criteria such as: Consecutive years of loss; losses beyond a certain magnitude and that a certain proportion of the producers in the area would suffer a defined loss.

  * An area designated as a disaster area should be large enough to give meaning to the disaster insurance program. For example, an area somewhere between 10 or 15 townships (including a range of 300 to 500 sections of land and perhaps involving 200 to 300 producers) may be a suitable size for a major loss area.
  * The term "disaster" might be defined, for example, as one where over 50 percent of the producers in the designated area received crop insurance indemnities and where the total-indemnity/total-liability ratio for the designated area exceeded 15 percent.

- "Disaster" insurance implies systematic "budgeting" for the extraordinarily large indemnities paid out during a defined major crop-loss disaster. This systematic "budgeting" would take the form of an annual premium levy sufficient to cover the major crop disaster indemnities paid out at infrequent intervals. Premiums would be shared by the producer, the government of Alberta and the government of Canada.

  * Assuming an adequate historical data base, premiums could be based on the probability of risk by "disaster", or
  * premiums could be established at some affordable level, say 50 cents to 1 dollar per acre cost to the producer and coverage levels established on the basis of estimated risk and projected budget.

- Coverage levels might be somewhat lower than used for basic crop insurance, perhaps in the area of 50 percent of the long-term area-average yield.

- Indemnities should be sufficient to offset the major effects of an area-wide crop disaster while at the same time protecting the fundamental integrity of the basic crop insurance program.

  * When a crop insurance area is declared a "disaster area", extraordinary indemnities would be paid from the disaster fund. Coverage levels and premium rates under crop insurance would, therefore, not be affected. The actuarial integrity of crop insurance is maintained without premium or coverage adjustments for the "disaster" portion of indemnties.
  * If a coverage deductible (20-80) is applied to basic crop insurance, then a producer with both crop insurance and disaster insurance would receive full indemnity.
  * Once the area is defined, indemnities would be based on individual yield adjustments as is now done under crop insurance.
  * An automatic formula would trigger the disaster insurance provision for an area when a major crop-loss disaster was encountered. Approved claims based on yield adjustments would be indemnified both with respect to "disaster" and crop insurance without double indemnity. A producer with only disaster insurance who was outside a declared disaster area would receive no indemnities.

- Perils subject to "area-wide" risk would be included under "disaster" insurance, e.g. drought, frost, snow, flood, etc.

- Considerable study would be required to determine the probability of disaster and premium rates to maintain actuarial financial integrity of the program.

8.3 Crop Insurance

8.3.1 Coverage levels

The coverage level for crop insurance is a function of yield and grain prices. In dollar terms, coverage level declines with declining grain prices. Because of declining grain prices, considerable concern was expressed at the hearings with respect to the inadequacy of crop insurance to cover input costs. Many suggestions were received as to how coverage levels might be increased, ranging from input costs based on receipts to providing flat dollar rate options based on costs of production.

Concern was also expressed with respect to the low prices realized for harvested grain which may be below input costs. There was a plea for "income" insurance, whereby a producer would be protected for both yield and price risk.

However, as stated under principles of crop insurance, Chapter 2, crop insurance can only insure against loss of yield. In a pure sense, the yield deficiency could be paid by a transfer of actual grain to the producer. Since this is not practical, the value of the grain claimed is converted to dollars using a market price estimate. Crop insurance should never compensate at a price higher than market price. If this is done, the system will be open to widespread abuse because a producer could actually receive more money for not growing or harvesting a crop than he could receive had he put forward every effort to grow or harvest his crop.

Price insurance and crop insurance must therefore, be separate programs. Payments under price insurance would be triggered on an average price basis and is, therefore, farm management neutral. Crop insurance triggers on an individual basis and if not closely tied to market value, would not be farm management neutral.

A third concern expressed was the reduction of coverage levels caused by the widespread drought of 1984 and 1985. This resulted in loss of good experience for many producers as well as reducing the 10-year moving area-average yield.

To help overcome abuse, a coverage deductible could be applied, e.g. 20 - 80 , where the producers would not be covered on the bottom 20 percent of his long-term average yield. For instance, if his average yield was 50 bushels per acre, his coverage would extend from 10 bushels to 40 bushels. This would help overcome abuse and provide greater flexibility to the producer and the adjuster in writing a crop off insofar as insurance is concerned.

Since the incidence of loss is relatively low between 0 and 20 percent of average yield, average annual reduction of indemnities by using 20 - 80 percent compared to an 80 percent coverage level, would be about 12 million dollars in total or 10 percent. Calculations are based on 1986 crop insurance prices.

If a deductible were to be applied, the deductible loss could be insured under the disaster program if implemented.

The advantages of the proposal are primarily administrative. If an adjuster decided a crop would yield less than 20 percent, the producer could do what he wished with it since any realized harvest would not influence the claim. It could help reduce abuse where producers were growing poor crops with anticipation of payouts from crop insurance.

The disadvantage is when a producer loses all of his crop through no fault of his own. He would in effect have only 60 percent coverage but would have paid the high premium rate which is much closer to the premium for 80 percent than the 60 percent coverage level.

Recommendations

- Crop insurance has been designed to deal with crop yield instability, not price variability, market constraints or production cost increases. Coverage levels must remain on a yield basis tied to market price for payment purposes. Price and market protection are discussed in "Prairie farm income stabilization".

- Under the Canada Crop Insurance Act, crop insurance cannot exceed 80 percent of the long-term average yield. It is recommended that an 80 percent coverage option be adopted.

- Contingent upon developing a disaster program, a coverage deductible, e.g. 20 - 80 percent should be explored.

- In consideration of the declining dollar coverage due to falling grain prices, the Alberta coverage restoration program should be continued for 1987.

- With a view to moving towards a system of establishing coverage levels less sensitive to yield variation in any one year, a study is required to determine the feasibility of adopting a 15-year moving average adjusted for trends in technology.

8.3.1.1 Individual coverage

Throughout the hearings, producers expressed concerns that the existing methods used in determining coverage levels based on risk-area average and soil classes do not reflect the variation in management but by averaging mask the wide differences in yields between individuals. Furthermore, coverage adjustments for good experience is based on number of claims and loss-to-premium ratio and does not necessarily reflect the actual yields. Hence, many producers are under-insured and many are over-insured. Over-insurance can lead to abuse of the system. These observations are backed by research findings (Chapter 7).

Given these concerns, producers are generally of the opinion that some means is required to more accurately reflect an individual's production capabilities relative to his/her peers. Suggestions included redefining risk areas, reclassifying soil classes, establishing more realistic distinctions between cropping practices, assessing productivity on basis of inputs and altering the coverage adjustment schedule. Relying on these approaches alone, however, is suspect since a large portion of the yield variability within a given area and/or soil classification is related to disparities in individual management practices. The only accurate method for yield determination is to measure an individual's production. Coverage and claim status can then be related directly to individual yield history.

Individual coverage is now an option. However, there are only 450 producers using it. For every three that take the option, two drop off and return to basic coverage.

Because of a number of anomalies that tend to favor the basic program, the individual coverage option does not appear to be competitive.

- With good experience coverage adjustment under "basic", the producer can obtain up to 30 percent increase in coverage. For example, at 70 percent coverage, an area average yield of 40 bushels per acre gives 28 bushels coverage. Good experience could increase this to 36 bushels. Thus a producer's actual production could be below 40 bushels per acre but he could have 36 bushels coverage. To obtain 36 bushels coverage at the 70 percent option on individual coverage, the producer's average production would have to be 51 bushels per acre.

- On individual coverage, coverage level is based on the five-year average yield phasing to a ten-year moving average as records become available. At the end of five years, coverage is based entirely on the producer's five-year average yield record. Because of the short period, his coverage is very vulnerable to a serious crop loss. A complete loss in one year would reduce his coverage by 20 percent.

- Under "basic", because of area averaging, hail losses have little impact on coverage. With individual coverage, losses due to hail can have a significant effect on coverage since it directly reflects upon the individual's area-average yield.

- Factoring of yields down by quality adjustment does not affect coverage under "basic" but does under "individual" since it is the factored yield that is used in determining average yield.

- A premium rate is assessed for each risk area and is converted to a flat dollar premium per acre adjusted for 60 or 70 percent coverage and fallow/stubble differentials. The premium in dollars per acre does not change between soil classes. However, under the high-risk subsidy, a producer's premium does not exceed 6 and 8 percent of his coverage for the 60 and 70 percent coverage options, respectively.

  Under "basic" and "individual", where "individual" is not in a high-risk subsidy situation, the flat rate for the risk area is applied regardless of an individual's coverage level. In effect, no premium is charged in addition to the area-average coverage level. However, in the "high-risk subsidy" situation, the premium rate of 6 or 8 percent is now applied to total coverage where the producer is on individual coverage. In some situations, this has resulted in substantial increases in premiums and some producers have gone back to "basic".

- For "basic", fallow/stubble differentials are taken into account. Based on area averages, coverage is lower for stubble. Premium rates are similar, however, because of lower coverage, the dollar-per-acre premium is less for stubble.

On individual coverage, the producer pays a composite premium based on weighting of the premium for fallow and stubble for the risk area. If he is continuous cropping, he would pay a higher premium rate on "individual" than under "basic". If he cropped only fallow, he would pay a lower premium rate. Hence, with "individual" the assessed premium may be an advantage or a disadvantage depending upon cropping practices.

Given the anomalies which exist in the current program, it is not surprising that so few producers are enrolled in the individual coverage option. Producers reluctance in accepting the individual coverage option is understandable considering these disparities and the lower emphasis placed on marketing of individual coverage.

If the program were to continue as it exists, these anomalies would definitely have to be removed. To meet the concerns of producers, however, the most likely scenario appears to be moving all producers to an individual coverage format.

Three options are open for moving into individual coverage:

- Immediate transition from the existing system to individual coverage.

- Phasing towards individual coverage over time with the objective of everyone being on individual coverage within three to five years.

- Remaining optional with the proviso of it being mandatory for those producers with a history of high number of claims and high loss-to-premium ratios.

The advantages and disadvantages of the three alternatives are:

- Immediate transition

Advantages

- * Coverage adjustment for good experience would be withdrawn. With coverage adjustment, actual coverage levels are not 60 or 70 percent but well over 70 percent. In 1985, only 8.2 percent of the producers were below basic; because of the drought this increased to 14 percent in 1986. Because of the way in which coverage adjustment is calculated, the distribution about the area mean yield is not symmetrical. Hence, in a statistical sense, the actuarial integrity of the program is not sound. To offset this and other preferential treatment devices such as farm-size discounts, etc., the premium is "top loaded" in the order of 40 percent. This leads to inequities between producers.

- * "Top loading" of premiums could be greatly reduced resulting in considerable cost savings, assuming everything else remains equal.
- * Each producer would have an insurable production level based on his own productivity.
- * It may be possible to establish a premium rate by crop on a provincial risk basis as is done in Ontario and Quebec. This would overcome the need for a high-risk subsidy, risk areas and soil classification.
- * Premium discounts and surcharges would apply depending on individual experience.
- * Abuse of the system would be reduced.
- * It is recognized that many producers would experience reduced coverage under "individual".
- * Contingent upon individual coverage, there has to be an offset for acceptability. An offset could be to include a coverage level option of 80 percent of an individual's moving-average yield with the total cost of the program shared on a tripartite basis between the producer, federal government and provincial government. The total cost of the program would increase by about 37 percent. The cost to the producer and the federal

government would remain about the same. The cost of enhancing the program would be borne mostly by the province. Net cost to the province (adjusted for discontinuing the high-risk subsidy and sharing administrative costs) would be about 34 million dollars. The producer would have the benefit of much better coverage at an affordable premium. These costs will vary depending upon participation level and the price of grain. The calculations are based on insuring 60 percent of Alberta's crop acres.

Disadvantages

The disadvantages of immediate transition are:

- Many producers do not have acceptable yield records to establish a five- or 10-year moving average on individual yield.

  * Initially, yields would have to be estimated based on one of the following: area-average yields; area-average yields with experience adjustments; area-average yields with average experience adjustments or yield records as historically submitted by policy holders. This requires further study. Regardless of how yields are established, actual individual yields will have to be phased in over time using estimates for those years where "actuals" are not available.

- A mechanism has to be devised to obtain actual yields. The most accurate is for the AHCIC to measure (verify) the production of each producer. This would add about 1.5 million dollars to administrative costs and presents a logistics problem of getting the job completed before winter sets in.

- Phasing towards individual coverage

Phasing in of individual coverage on a voluntary basis would require major corrections to the existing basic program to provide equity between "basic" and "individual".

Advantages

* Phasing towards individual coverage would allow for a gradual reduction of good experience adjustment as actual yields were obtained. In this sense, it would allow for a smooth transition. However, this problem is largely overcome by moving to an 80 percent or 20 - 80 percent option at affordable premiums under a tripartite arrangement.

Disadvantages

* Phasing in allows the existing distortions of coverage adjustments to remain for some time.
* There may be a connotation of discrimination in making it mandatory for producers with a high number of claims and high loss-to-premium ratios to go on to individual coverage.

- Retaining both systems with modifications to the basic program.

Advantages

* Coverage adjustments would be modified.
* Reduce the number of required inspections.
* A producer not wanting to bother with having his fields or bins measured, could stay on "basic".

Disadvantages

* Even using area-average yields to determine levels of coverage, some producer's actual production would be below this level. Distortion (skewness) although reduced, would still exist.

- * It would still be mandatory to place "high-risk" producers on to "individual".
- * Risk areas and soil classification would remain and have to be refined. The program would retain most of its existing complexities.

General

Although individual coverage increases inspection costs, the program can be greatly simplified particularly if base premium can be established provincially. There would be no need for risk areas, soil classification, fallow-stubble differentials, high-risk subsidies or coverage adjustments. Premiums could be discounted or surcharged depending upon individual experience. Wide variation in management would be reflected in individual productivity. Objections to resource neutrality would be lessened.

Recommendations

- Contingent upon 80 percent or 20 - 80 percent coverage option being made available and a tripartite arrangement for the sharing of premiums, individual coverage for all producers should be adopted by 1988. The need for a system to determine coverage level by phasing in actual yields as they become available is recognized.

- Individual coverage be based on a form of indexing of the basic area coverage; the index is to be based on a moving average of the producer's individual yields compared to an area-average yield.

- Premiums to be discounted or surcharged depending upon an individual's loss experience.

8.3.1.2 Area-average coverage

Should a complete transition to individual coverage not be accepted, then several major modifications would be required with respect to the existing program. Area-average coverage should be compatible with the individual coverage option. Research results (Chaper 7) show considerable variation within risk areas. Also, lower classified soils generally have higher risk which may not be fully reflected in premiums. It appears that there may be considerable cross subsidization both within and between risk areas. Coverage adjustments which do not necessarily reflect actual yields, results in both under- and over-coverage. The way it is applied, far more producers have coverage levels above the area-average yield than below.

Recommendations

- To reduce abuse, all producers with a high frequency of claims and/or high loss-to-premium ratios should be placed on individual coverage.

- A coverage adjustment method to more accurately reflect actual yields need to be developed.

- Risk areas and soil classifications require refinement to achieve greater homogeneity and improved equity in the system.

8.3.2 General Recommendations

- Premiums

In general, producers seemed to be more concerned about coverage levels than premium rates. They recognize that increased coverage will cost more but perhaps do not realize the extent to which premiums escalate with increased coverage. The program must be affordable to producers.

The Federal government is interested in a more equitable system for sharing costs whereby they would share administrative costs with the province, but the province would share in premium costs.

Enhancement of the program can be achieved and remain affordable to the producers by including a coverage level option of 80 percent, and having total program costs (administration plus premiums) shared equally by the federal government, provincial government and the producer. The cost to the federal government and the producer would approximate what they are now paying. The additional cost for the added coverage would essentially be borne by the province. Administration would remain under control of the province.

Recommendations

- That the coverage options be extended to include 80 percent of the long-term area-average yield and all costs be shared equally by the federal government, the provincial government and the producer. This recommendation is contingent upon the phasing out of area average coverage and phasing in individual coverage.

- The premium rate should be applied to total coverage to determine premium. In effect, at present, no premium is charged on additional coverage earned by adjustment for good experience.

- Premium rate surcharges should be applied to producers with high claims and high loss-to-premium ratios as well as applying premium discounts for good experience.

- Abuse

As expressed at the hearings, concern of perceived abuse is very high. Abuse falls into three categories:

- Outright fraud - hiding grain from the adjuster, etc.
- Using the system:
    - Insuring only high-risk situations, e.g. late seeding into peat soil.
    - Building up good experience with a single low-risk crop and then insuring all crops with the advantage of higher coverage and reduced premium.
    - Obtaining separate contracts by establishing separate legal entities.
    - Deliberately farming for low yields and continuously collecting on insurance.
- Poor Management, etc.

  This is abuse that is not premeditated. A producer may simply be a poor manager; he may be growing crops not suitable to the soil or climate; he may use low levels of inputs or his timing may be poor, such as late seeding or late harvesting. For whatever reason, he continues to get more out of the program than he puts in.

The producer who seldom claims indemnities feels that he is subsidizing the abusers and that it is adding considerably to the cost of his insurance.

The degree of actual abuse is difficult to assess. However, in 1984 there were only 8.2 percent of the producers who were below the basic coverage level because of bad experience penalties.

The fact remains that producers perceive abuse to be prevalent, unfair and costly. Therefore, every reasonable measure must be taken to reduce abuse. However, overreaction in tightening up the system would impact negatively on all producers. For example, having to insure all crops would reduce abuse but would take away the crop election provision from all producers. In general, producers want to choose the crop(s) for which they will insure.

Two of the proposals to reduce abuse were rejected: 1) to establish a 0-800 line for the public to report abuse without identification, and 2) not to insure E and F class soil. A complaint to be acceptable should be submitted personally or by a signed letter. Excluding E and F soil from insurance would be discriminating.

Recommendations

- Where abuse is indicated, apply stricter field inspections.
- Conduct random pre-harvest checks as well as bin measurements where abuse is suspected.
- Weather data may be a useful criteria in verifying the legitimacy of a claim.
- Adjusting according to area-loss and restricting the number of years a producer can be indemnified - possibly 3 years.
- Disqualify a producer from his right to crop insurance in instances of fraud. This recommendation is for "emphasis" only. The AHCIC, under Section 6 of the policy contract now has the right to deny liability of a claim on grounds of fraud, misrepresentation or neglect. Moreover, the Act provides the AHCIC with the right to refuse any application for insurance.
- Penalties should be reviewed in terms of severity as a deterrent to abuse.

- There should be a premium surcharge applied to those with excessive claims and high loss-to-premium ratios, keeping in mind the need of adjustment for area-wide disasters.

- Moving to individual coverage would reduce abuse. Individual coverage should be mandatory for "high-risk" clients.

- New concepts

A number of new concepts were presented at the hearings primarily designed to achieve a combined production and price insurance mechanism as well as a disaster fund. The recommendations of the panel with respect to new concepts are covered in separate sections under the headings of Prairie Grain Revenue Insurance Program, disaster insurance and individual coverage.

- Policy issues

Policy issues are considered to be those issues generally under the control of the AHCIC's board of directors.

A number of proposals were rejected:

- Do not pay a claim to a receiver. This is a legal question.

- Provide incentives to beginning producers with respect to crop insurance. This is not within the jurisdiction of the AHCIC nor is it compatible with the actuarial base of crop insurance.

- Forcing a person to take out crop insurance for 3 years if he has a claim. This could lead to the perpetuation of abuse - insurance must remain voluntary.

- Crop insurance as collateral - this is presently taken into consideration by financial institutions.

- Rescind the Threshers Lien Act. It is under this authority that the AHCIC can collect unpaid accounts and, therefore, is necessary.

- Require producers to buy insurance for 10 years. Insurance must remain voluntary and part of a farm management decision.

- Pay interest on delayed payments by the AHCIC not practical.

- Board of directors must be elected. Directors to remain as ministerial appointments.

- Allow landlord to buy insurance if tenant does not. May deserve further consideration.

- Establish local committees for input. This is the role of the directors.

Recommendations

- Crop insurance should remain on a voluntary basis.

- An independent appeal board should be established. At the present time, the AHCIC board of directors acts as the appeal board. This creates the situation where an appellant is appealing an alleged injustice before the same people who allegedly caused the injustice. Decisions of an appeal should be independent from the AHCIC in fairness to both the appellant and the AHCIC.

  This appeal body should have three members who are fully knowledgeable about the program. They should be appointed by Order-in-Council.

- Increase the research capability within the AHCIC. As well, the AHCIC should work with and utilize research and economic analysis capabilities within Alberta Agriculture.

- Enhance the computer systems capability and data base systems of the AHCIC. The feasibility and costs inherent in having district offices "on line" should be assessed.

- Alberta Agriculture extension staff need to be more informed with regards to crop insurance programs. The AHCIC should work with Alberta Agriculture Field Services staff in this regard.

- The AHCIC should develop a more market oriented approach to selling crop insurance. Innovative communication approaches should be developed to ensure that contract holders understand the protection they have been provided.

- Financial arrangements regarding reserves, reinsurance and advances must be reviewed and amended to ensure that these arrangements are adequate. In particular, the AHCIC Act requires amendment to bring the advance relating to prepayment of Canada's share of premiums into line with current expenditures and to delineate advances required to deal with reinsurance funds.

- Additional resources should be allocated to claims investigation. This function should be co-ordinated with inspections carried out under programs administered by Alberta Agriculture.

- Training of district staff should be given a higher priority.

- With regard to the management of the AHCIC, the competence and expertise of senior management was evident and appreciated. However, many of the senior staff are approaching retirement. It is recommended that consideration be given to adding backup in the form of an assistant General Manager along with similar positions in senior management to ensure continuity in the operation of the AHCIC.

- The board of directors should continue to be made up of a majority of producer members selected on a geographic basis and appointed by Order-in-Council. However, the directors should be appointed on a rotational basis for a three year term with a maximum of two consecutive terms.

  * To facilitate adequate representation with particular reference to the Peace River block, the number of directors should be increased from seven to nine including the chairman. Because of uniqueness, irrigation should continue to be represented on the board of directors.
  * To ensure necessary co-ordination, both Agriculture Canada and Alberta Agriculture should have ex officio representation.
  * A member of the legislature should be appointed to the board, however, the chairman should not be a member of the legislature. In this way, the government would have greater flexibility and perhaps better representation.

- The head office of the corporation should remain intact and at Lacombe.

- Administrative issues

A number of proposals were rejected:

  * A toll-free telephone number for head office. This could reduce the effectiveness of the district offices.
  * Elevator agents should get 2 percent collection fee only on overdue accounts. This is the case at present.
  * Accounts paid on time should receive a 2 percent discount.
  * Set a deadline for payments on claims. Management has to have some flexibility depending on number of claims and time pressure on adjusters.

Recommendations

- Many producers have indicated that they do not receive adequate information on crop insurance. At time of renewal, district offices are extremely busy. There appears to be a need for improved communication.

  * Produce a series of in-depth pamphlets separating cereals and oil seeds, vegetables, etc., into separate pamphlets. A separate pamphlet might be warranted for claims adjustment.
  * Information meetings tied in with other extension meetings or courses.
  * Install an answering machine at district offices for off-hours.

- Explain and promote the individual coverage option, if it remains an option.

- More prompt pre-harvest inspections so the producer can proceed with his operations.

- When district offices are far apart, review the need for additional satellite offices.

- It was indicated that the premium rate schedule and manual are not available in northern Alberta by the deadline for election of crops. If not, they should be.

- AHCIC performance

Generally the feelings were favorable towards the AHCIC with respect to adjusting and settling of claims. The following proposals have been rejected:

* Continue the use of test strips for adjustment purposes to enable the producer to harvest for feed when an immediate adjustment is unlikely. It is difficult to assure a test strip is representative of the field.

* Market value less cost of harvest, should establish value of the harvested crop. The insurance covers production, not input costs.
* Current maximum yield limits for a 100 percent loss designation are set too low.
* Producers should not be required to harvest a crop worth less than the cost of harvesting. This is the producers' decision, if he is prepared to accept the adjuster's estimates, he may harvest it immediately.

Recommendations

- Adjusters should be fully trained and competent.

- Accuracy is emphasized in measuring bins.

- Where necessary, pre-harvest and post-harvest inspection should be used in adjusting a claim.

- The "attitude" clause should be removed from the adjusters form. Any confidential comments should be recorded by separate memorandum.

- Livestock Feed Security Program

The Livestock Feed Security Program is quite new and only covers part of the province. Applying a good experience adjustment is not recommended.

Recommendations

- Contingent upon appropriate modifications, the program should be extended to include the entire province.

- That further study be conducted to determine the feasibility of the following:

  * Provide an option of coverage on year of forage establishment (Ontario has a separate policy for this).
  * Establishing coverage levels on an individual rather than area basis.
  * Allowing a producer to elect a specific rather than total acreage.
  * Extend coverage to include excess moisture - quality loss, inability to harvest.
  * Improve methods of assessing production levels for adjustment purposes.
  * Older hay fields should have lower coverage.
  * Examine the feasibility of insuring pastures.

- The actuarial integrity of the program must be continually reviewed.

- Experience adjustment

The main concerns expressed were that bad experience reduces coverage too quickly and an individuals' coverage should not be affected by an area-wide disaster.

Recommendations

- The rate of coverage reduction should be reviewed. Perhaps the upward and downward adjustments should be at the same rate and degree.

- An individual's coverage level should be indexed against an area loss to offset the affect of an area disaster on coverage levels.

- The AHCIC has recently applied the coverage adjustment to individual crops. This should be continued.

- Penalties should include a premium surcharge.

- Deadline dates

Considerable concern was expressed, particularly in northern Alberta, with respect to deadline dates. It was generally felt that the deadline for seeding wheat and argentine canola should be set back from June 20 to June 1 because of the high risk associated with late seeding. It was suggested that a higher premium rate should apply to late seeded crops.

Many felt the deadline for premium payments to be too early. There is very little crop sold by September 1.

Recommendations

- The deadline for seeding crops should be reviewed.

- Commencement date for interest charges on overdue premium accounts should be set back to October 1.

- For "pure" alfalfa stands, the plough-down date to be eligible for fallow designation should be the same as is now set for clovers.

- The plough-down date of all forages for fallow designation should be reviewed.

- Spot-loss provision

There was a strong plea for spot-loss, field-loss or quarter-section-loss. Spot-loss flood damage should be considered under a disaster program.

Recommendations

- Spot-loss coverage is not recommended for the following reasons:

  * Inequity. Crop insurance is designed as protection against the risk of reduced production for the farm unit. With spot-loss, a producer with a higher average yield than another, could receive a payment. The other, whose average yield was still above the coverage level, may not receive a payment.
  * Actuarial integrity. There is no data base on which to establish a premium rate.
  * Claims would be higher and costs might be prohibitive.
  * Spot-loss would add greatly to administrative costs because of the added inspections required.
  * Spot-loss would have to be adjusted by pre-harvest inspections. This becomes very difficult for some perils such as frost damage.

- Summerfallow/stubble

The differentials used by the AHCIC are greater than actual as shown by research results (Chapter 7). In most instances, for central, north central and northern Alberta, the actual differences in yield are narrow and perhaps the average differential could be dispensed with. However, for the Brown soil zone area, the yield differences are quite significant.

Recommendations

- The fallow-stubble yield differentials need to be reviewed with a view to reducing them and for some risk areas, eliminating them.

- Types of crops insurable

Separate insurance for different varieties of cereals and oil seeds is not recommended.

Recommendations

- The growing of new crops that may be suitable to the province should be encouraged. Recognizing the lack of historical yield data as a basis for establishing insurance, it is recommended that such crops be eligible for insurance at a minimum coverage level, e.g. cover a production loss not to exceed $50 per acre until historical records are accumulated.
- Availability of insurance for commercial vegetable market gardeners should be considered.
- Separate insurance coverage by variety and end use of potatoes should be examined.
- The feasibility of insurance for forage seed crops should be explored.
- Consideration should be given to insuring silage crops separate from cereal crops and adjusting on the basis of yield of silage rather than potential grain production as is presently done.

- Perils insurable

A number of proposals are not recommended:

* Coverage for potato storage problems.
* Coverage for specific perils for irrigation - insects, disease, weather.

Recommendations

1987 - Coverage should continue to be offered as insurance against an assortment of natural perils (all perils) rather than on an individual basis.

- Risk areas

A geographical area, designated as a single-risk area, is intended to represent a region in which the probability of crop loss due to insurable perils such as drought, flood, insects, wind, hail and frost, is similar or uniform for all insured producers. If the aggregated risk is similar in the area, the risk area is homogeneous for risk and the premium rate is identical for all insured acreages. Risk areas are generally set out in blocks for administrative, statistical and conceptual convenience.

Research results (Chapter 7) show that there is considerable variation within risk areas. It is further shown that lower classified soils have higher risk which may not be fully reflected in premium rates, since the same premium in dollars per acre is applied across a risk area regardless of soil class. It appears as though there may be considerable cross subsidization both within and between risk areas.

Recommendations

Subject to continuation of the existing system or need for risk areas, a comprehensive review of both risk areas and soil classes is mandatory.

- Wildlife depredation

Society has an overall responsibility for wildlife. Farmland is an essential part of wildlife habitat.

Recommendations

- That a compensation program be developed that will provide full reimbursement to producers for all losses, on a spot-loss basis, caused by wildlife. This program should be universally available to all agricultural producers in Alberta without payment of any premium.

  - * Compensation should be fully financed through a wildlife fund.
  - * Administration and payments to producers for crop damage should be through the AHCIC.

- Snowed under crops

No changes were recommended with respect to the existing policy for snowed-under crops.

- Quality adjustments

Recommendations

- Yields should not be factored up if grades are better than the normal standard, i.e. remain as is.

- The policy for factoring "Board" grain needs review. The lowest factor used for soft white spring wheat is based on the Canada Feed Wheat grade. Regardless of degree of deterioriation, it cannot be factored lower than this. Canola, however, which is "Off-Board", can be factored in accordance with market value. There is an adjustment inequity between these two crops.

- Farm contracts

A producer who owns land separated by 15 miles, can now obtain separate contracts.

Recommendations

- Review but leave as is providing grain movement is not creating an adjustment problem. If there are problems, the minimum distance may have to be increased.

- Farm-size discount

Studies show that the farm-size discount is not justified for two reasons:

* In recent years, the risk for larger farms has been as high or higher than for smaller farms.
* With good experience adjustment the size discount is, in a sense, a double premium discount in that a discount would have already been applied for good experience.

Recommendations

- Discontinue the farm-size discount.

- Irrigation vs. dryland

Presently, a producer is allowed only one contract for irrigation and dryland unless separated by over 15 miles. This leads to two problems:

- * If the same crop is grown on irrigation as on dryland, the average yield of both is usually above the coverage level, whereas the dryland, if considered separately, might be eligible for a claim.
- * Because of this there is a disincentive to produce the same crop on both irrigation and dryland, hence is not resource neutral.

The difficulty in allowing separate policies is the opportunity for grain movement and associated problems of adjusting claims.

Recommendations

- That separate contracts be allowed for irrigation and dryland subject to both pre-harvest and post-harvest inspections when the same crop is grown on both.

- Average yield calculation

Presently, coverage level is based on a 10-year moving area-average. There is a trade off in the length of time chosen. A shorter period is more responsive to changes in technology. A longer period is less responsive to technology change but less sensitive to low yields in any one year.

Manitoba is moving towards a 25-year moving average with a technology adjustment formula (Chapter 5).

Recommendations

- With a view to moving towards a system of establishing coverage levels less sensitive to yield variation in any one year, a study is required to determine the feasibility of adopting a 15-year moving average adjusted for technology.

- Straight hail insurance

It is recommended that the policy remain as is with one additional consideration:

- That hail insurance be made available at a higher coverage level to vegetable growers not selling through a marketing board.

- Special provisions

None of the proposals put forward for change are recommended. If special incentive is required for encouraging the reclamation of saline soil, then this should be considered under some program other than crop insurance.

- Price options

There was a plea to increase price options to cover cost of production. Crop insurance is production insurance and the price option used has to be market price or less. This would have to be handled through some form of price insurance (see prairie grain revenue insurance proposal).

A problem exists in setting prices for crop insurance purposes in that prices are set about one year in advance and frequently vary considerably from market prices at time of a claim (Chapter 7).

Recommendations

- Premiums should always be established on the basis of premium rate and expressed as bushels (kg) per acre. For "Board" grains, price should be announced for insurance purposes as soon as the CWB announces the initial price schedule for the current year. Study is required with respect to estimating prices for "off-board" crops. The futures market may be useful.

- Reseeding benefits

No changes are recommended to the existing system.

- Specialty crops

Insecticide used in the spraying of crops can kill bees. This damage is often totally beyond the control of the beekeeper. The only safeguard that can be implemented, apparently, is to physically move the bees to some area where insecticides are not being used. This is not considered practical. Also, the necessary monitoring to determine the cause of bee death is costly.

Since loss due to insecticide is not a natural peril and hence is not included under federal legislation as an insurable peril, insurance coverage for such losses cannot be recommended.

Recommendations

- Eligibility to insure bees should be reduced from 200 hives to 50 hives.
- Crops considered high-risk in certain areas should require approval from the AHCIC as to insurability before seeding.
- Boundaries limiting the areas for insuring specialty crops require continuous review to accommodate new technology, e.g., new varieties.

- High-risk subsidy

The high-risk subsidy, paid by the province, results in premiums not exceeding 6 percent and 8 percent of the dollar-per-acre coverage for the

60 percent and 70 percent coverage level, respectively. The purpose of the subsidy is to maintain insurance at an affordable level in higher risk situations. Since the province pays the subsidy, there is no cross subsidization by producers.

One might also argue that producers located in high-risk hail areas also receive a higher subsidy with respect to the hail endorsement rider. Although the subsidy rate is 50 percent across the province, in dollar terms the producer receives more subsidy on his total endorsement where higher premiums exist than the producers in a low-risk hail area.

The concern of high-risk subsidy is that it may not be resource neutral (Chapter 6). Producers, because of the high-risk subsidy, may continue to grow high-risk crops.

Recommendations

- The high-risk subsidy should remain under the existing system. If it is feasible to establish premium rates on a province wide basis, the high-risk subsidy would be eliminated since risk would be shared equally throughout the province. (Individual Coverage - section 8.3.1.1).

- Grain drying allowance

No change to the existing system is recommended.

- Privatization

A number of briefs were received from the private sector in which they requested the right to:

- Market all hail insurance including the hail endorsement; the latter subject to proof of having basic coverage.
- Market all crop insurance for a commission.

The following benefits were put forward:

- Highly qualified agents throughout the province.
- One-stop shopping for all insurance requirements.
- Farmer contact for reasons other than crop insurance.
- Competitive.
- Market aggressiveness.

Assuming a 10 percent commission, for 1986-87, the commission for hail endorsement would be about 4.5 million dollars. The commission on basic crop insurance would be about 8.8 million dollars. This of course would be subject to negotiations, for example, Ontario uses private agents and a maximum commission is set for writing up any one policy (Chapter 5). Unless the private sector took over adjusting, district offices would still have to be maintained. In any event, for purposes of co-ordination, the regional offices would still be required.

Recommendations

- The interest shown by the private sector in marketing all risk crop insurance should be considered in developing future marketing strategies.

ABBREVIATIONS AND ACRONYMS

1. Ad hoc - for a certain purpose; special.
2. AHCIC - Alberta Hail and Crop Insurance Corporation.
3. Board grain - grain marketed through the CWB.
4. CA - Cash Advance (Prairie Grain Advance Payments Act).
5. CWB - Canadian Wheat Board.
6. FCIC - Federal Crop Insurance Corporation (U.S.).
7. OFA - Ontario Federation of Agriculture.
8. Off-board - grain over which the CWB does not have exclusive marketing jurisdiction.
9. RRSP - Registered Retirement Savings Plan.
10. WGSP - Western Grain Stabilization Plan.

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As chairman, I was most fortunate in the appointment of the panel members, the names of whom appear in the introduction. The members, all producers in their own right, maintained their objectivity througout the hearings. Their job was to listen and carefully assess each concern and recommendation made during the hearings. This they did very well. In particular, I wish to thank Nigel Pengelly who accepted the responsibility of chairing team 2 for the informal hearings.

During the review, a vast amount of background information has been assembled and research conducted. Many resource people have been involved. In particular, I wish to acknowledge Mr. Ed Patching and the staff of the AHCIC who generously provided resource people at each of the meetings, provided the details of the hail and crop insurance program, and the data base which was fundamental to our research. Angus Reid and Associates conducted the comprehensive phone survey. Dr. J.C. Gilson, of the University of Manitoba, co-ordinated over 15 independent studies, moulded them together and produced a comprehensive integrated research document. Those involved in the research projects included a number of Alberta Agriculture personnel; Dr. Carlyle Ross and his staff from the Production and Resource Economics branch, Harry Warne from the Farm Business Management branch, Len Fullen from Land Use Branch, Rick McConnell from the Planning Secretariat and Keith Toogood from the Systems Development Division. The steering committee with Dr. Art Olson, ADM, as chairman and Les Lyster, member of the Planning Secretariat, as secretary, developed the initial framework and process.

Finally, all of the information received had to be categorized and assembled involving Dr. Bruce Jeffery, Executive Secretary to the panel and his staff. A special thanks to Shamim Rajani for the typing of the final report.

DALLAS W. SCHMIDT
CHAIRMAN